Facets and Aspects of Research
on Vocational Education and Training
at Stockholm University

FACETS AND ASPECTS OF RESEARCH ON VOCATIONAL EDUCATION AND TRAINING AT STOCKHOLM UNIVERSITY

EMERGING ISSUES IN RESEARCH ON VOCATIONAL EDUCATION & TRAINING VOL. 4

Lázaro Moreno Herrera,
Marianne Teräs
& Petros Gougoulakis (eds.)

Contributions in this book has been submitted to review process prior acceptance for publication. Authors remain however the sole responsible for language usage in the different contributions.

Assistant to the editorial board: Sofia Antera

PREFACE

This book is the fourth volume in the series *Emerging Issues in Research on Vocational Education & Training*, an outcome of scientific work of the research group VETYL (*Vocational Education & Training/Yrkeskunnande och Lärande*), at the Department of Education, Stockholm University, Sweden. This research group was created in 2011 with twofold aims: contributing to the advance of knowledge in the intricate area of vocational education and training (VET) and strengthening the research basis of the teacher education program for VET that is offered at the Department of Education, Stockholm University. The Swedish term "yrkeskunnande och lärande" in the name of the research group translates as "vocational knowing" and indicates one of the major research concerns of the group.

Earlier volumes were the outcome of the international conferences organised yearly, from 2012 to 2018, by the research group following the modality of invited papers. The conference has had two core aims: becoming a forum for sharing state of the art research in the VET field and a forum for networking and cooperation. The Stockholm International Conference in VET has now a well gained place within the major academic events organised in Europe as part of the European Network for Vocational Education and Training (VETNET). The academic tradition initiated by this conference will continue when the 8th conference will be held 7–8 May, 2020.

The texts presented in this volume are representative of the research work done by members of the research group VETYL.

Colleagues from partner institutions internationally as well members of other research group at the Department of Education contribute as co-authors or with own text in this volume.

The title of this volume *Facets and aspects of research on vocational education & training at Stockholm University* serves as an umbrella where comparative analysis as well as other research outcomes of cross-national interest are presented. The Research Group Vocational Education & Training/Yrkeskunnande och lärande (VETYL) is committed to contribute to the development of the research field Vocational Education & Training as well as the scientific grounds of the teacher training program for vocational subjects at Stockholm University. Likewise, the group is committed to cooperating with institutions for vocational education and training of youth and adults in Sweden and to development of strong international profile.

Important ground of the work of this group is an acknowledgement of a vocational education and training history that in the Swedish context dates back to the 19th century and is today an intricate and complex area with its own identity. Common in the diversity of research backgrounds at theoretical positioning is an acknowledgment of the research complexities in the field, as highlighted by Felix Rauner and Rupert Maclean (2008, p. 13) in the following terms:

> The variety of research questions and development tasks at the levels of vocational education and training systems (macro level), the organization and design of vocational training programs and institutions (meso level) and the analysis and shaping of education and learning processes (micro level) leads to the integration of different scientific disciplines and research

traditions. VET research therefore can be organized only in an interdisciplinary way.

Summarising, this volume well illustrates the diversity of research in the field in a way that is not frequently available in the literature today. We hope that the book will fulfil the expectations of a diversity of readers including under-graduate students, in particular students in initial and in-service teacher training programs for VET, post-graduate students, and policy makers.

Finally, we would like to thank the reviewers for their useful suggestions that helped to improve the contributions presented in this book.

Our gratitude goes also to all the authors, research group members, for their enthusiastic support to our fruitful academic discussions, the strengthening of our institutional networking and the commitment to the advancement of knowledge in the field.

Lázaro Moreno Herrera,
Marianne Teräs
& Petros Gougoulakis
Stockholm, September 2019

TABLE OF CONTENTS

AUTHORS' INFORMATION

Alex Cuadrado is Junior Research Fellow at Nordregio. He earned his MSc in International and Comparative Education from Stockholm University where he graduated in 2019. His research examines vocational education, employability, and skills. He is interested in researching the role of social class and education policy in vocational education and training.

Camilla Gåfvels is a senior lecturer at the Department of Visual Arts and Art Sloyd Education at Konstfack, University of Arts, Crafts and Design, Stockholm. Her research interests are centred around vocational knowing and areas related to assessment, in school and at work.

Carine Cools, PhD, has worked as a Researcher at the University of Jyväskylä, Finland. Her special interests has been female immigrants, language learning and communication in multicultural working places.

Enni Paul is an assistant professor at the Department of Special Education, Stockholm university. Her research questions concern literacies in vocational education, vocational didactics, workplace-based learning and language studies.

Eva Eliasson, Senior Lecturer (PhD) in Educational Science, is a member of the research groups 'Vocational Education and

Training' and 'Pedagogy and Health' at Stockholm University. Her research interests mainly concern vocational and teacher knowledge, and the interplay between power relations and vocational knowledge.

Harry Cephas Charsmar is a guest researcher in the research group VETYL (Vocational Education & Training Yrkeskunnande och Lärande) at the Department of Education, Stockholm University. His research interest is in simulation education as a mode of teaching, training and learning. Current research focus is on inter-professional simulation education in the medical and health science.

Janne Kontio is Doctor of Philosophy (PhD) in education, currently working as a researcher and lecturer at the department of Education at Stockholm University and as a post doc at Karlstad University, Sweden (Connected classrooms. New literacy practices among upper secondary students in the age of smartphones, funded by VR/UVK). He conducts empirical research in the field of education, with a special interest in the research areas of multilingualism, gender and embodiment as situated interactional practices.

Jesús Alemán Falcón is Associate Professor at the Department of Education, University of Las Palmas de Gran Canaria. His research interests focus on Vocational Education and Training and Early School Leaving.

Johanna Lasonen is a Professor at the Department of Leadership, Counseling, Adult, Career and Higher Education (LCACHE), College of Education, at the University of South Florida. Her

research interests focus on immigrants' access to workforce, comparative vocational education, assessment of vocational graduate programs, and equity issues education and workforce.

Juan Alberto Mena Lorenzo has a PhD from and is an Associate Professor at the University of Pinar del Río, Cuba. He has done research and published extensively about vocational pedagogy and history of vocational education and training in Cuba. Mena Lorenzo is the scientific leader of the research group for vocational education and training at the university of Pinar del Río where he is also the leader of the master and PhD program in vocational pedagogy.

Katarina Lagercrantz All works as a University Lecturer at the Department of Education, Stockholm University, Sweden. Her research interests focus on vocational education in health and social care, adult learning and immigrants´ access to workforce.

Lázaro Moreno Herrera is a professor in education sciences and the scientific leader of the research group Vocational Education & Training (VETYL) at the Department of Education, Stockholm University, Sweden. His research interests focus on various dimensions areas in VET notably policy issues, didactics and comparative international aspects. He has done significant research on technology education in the compulsory schools.

María A. Calcines Piñero is Associate Professor at the Department of Education, University of Las Palmas de Gran Canaria. Her research interests focus on Competency-based learning and Educational Innovation.

Marianne Teräs is Associate Professor and co-leader of the research group Vocational Education & Training (VETYL) at the Department of Education, Stockholm University, Sweden. Her research interests focus on vocational and professional education and training, learning expertise in health care contexts and migration in relation to VET.

Niclas Rönnström is an associate professor in the Department of Education, Stockholm University. He is Director of the National School Leadership Training Programme at Stockholm University. He is currently scientific leader for a large-scale national school development project and the SOUL (School Organization, improvement and leadership) Research group at Stockholm University. His research interests are linguistic communication, globalization, cosmopolitanism, school leadership and school improvement.

Pedro Luis Yturria Montenegro has a master degree and is concluding research for a PhD degree at the university of Pinar del Rio, Cuba. He is the vice-dean of the faculty of mechanics and a member of the research group on vocational pedagogy. Yturria Montenegro is interested in engineering education and didactics of vocational education and training. His publications covers the mentioned areas.

Petros Gougoulakis is an Associate Professor and a member of the research groups International and Comparative Education Research (ICER), Vocational Education & Training (VETYL) and Adult Learning (AL) at the Department of Education, Stockholm University, Sweden. His research interests are in the

field Adult Education and Learning, VET, Educators' competencies, Teaching and Learning in Higher Education. His experience of international research cooperation and teaching is extensive. He has been visiting Professor at the Graduate School of Education and Human Development, Nagoya University, Japan, and at Facultad de Educación, Universidad de Concepción, Chile. Since 2017 he is appointed Academic Coordinator and Supervisor of the post graduate program "Master in Adult Education" at Frederick University in Cyprus. He has also worked as an External Evaluator for the Hellenic Quality Assurance & Accreditation Agency for Higher Education.

Pia Skott is an associate professor at the Department of Education, Stockholm University. Her research interests focus on school leadership, governing systems and principals' professional learning. Currently she is involved in projects regarding leadership for student health and sustainable learning. She is the Deputy Director of the National School Leadership Training Program at Stockholm University.

Ruhi Tyson works as a University Lecturer at the Department of Education, Stockholm University, Sweden. His research interests focus on vocational didactics and bildung and the consequences for learning in vocational contexts. Tyson has published extensively in this field including text oriented to practitioners.

Sofia Antera is a PhD candidate in the Department of Educational at Stockholm University. Her research focus is on vocational teachers, their competence and professional development. She research interests include vocational education and training, adult learning and engineering education.

Stig-Börje Asplund is Associate Professor at the Department of Educational Studies at Karlstad University in Sweden. His main research interest is on classroom interaction and life story approaches, with a special focus on processes of identity construction and on boys' and young men's reading in and outside school. He has been involved in a range of educational research projects focusing on classroom interaction, and is currently participating in two research project funded by The Swedish Research Council, and one project funded by The Swedish Institute for Educational Research.

Viveca Lindberg is an associate professor at Stockholm University, Dept. of Humanities and Social Sciences Education. Her main research interests are related to vocational knowing and teaching/learning in various contexts, where she focuses on assignments, the communication related to them and assessment, as well as comparative studies. She has a specific interest in professional literacy as part of vocational knowing. Lindberg has been the coordinator of three national graduate-schools, in Educational assessment and two in Vocational pedagogy. She is currently involved in the newly established National Graduate School in Visual Art and Sloyd Education.

Section I:

Vocational pedagogy and vocational knowing

Vocational education and training (VET) is probably the most demanding of all educations. From a pedagogical point of view VET is a multifarious and complete activity, which engage mind and body in a holistic way. In a vocational program, theory and practice are intertwined – unlike more so-called academic programs. Vocational learning and knowing has to date not been researched and addressed enough, probably because this has not been a particularly meritorious engagement within the mainstream educational research community. The fact that there have also been preconceptions that VET requires a lower order thinking and learning of those attending a vocational program, has contributed to the malicious myth-spreading and the depreciation of a significant education sector.

Vocational education is in many aspects distinct from other education that leads to general qualifications, which require a distinct way of teaching and learning, i.e. another pedagogy. This pedagogy is described as "the science, art and craft of teaching and learning vocational education" consisted of various characteristic features (see for example: Ingle & Duckworth, 2013; Lucas, Spencer & Claxton, 2012).[1]

---

[1]   Ingle, S. & Duckworth, V. (2013). *Teaching and Training Vocational Teachers*. London: Sage Publications Ltd; Lucas, B., Spencer, E. & Claxton, C. (2012). *How to teach vocational education: a theory of Vocational pedagogy*. London: City & Guilds

Techniques and approaches vary according to the vocational subject being taught and the context in which teaching takes place. The methodology applied is basically experiential, which means that the students learn by doing. Their concrete experiences receive feedback from their teachers, peers and supervisors that triggers reflection and theoretical grounding.

Due to its complexity, vocational teaching and learning is a very demanding task and vocational teachers need continuous professional support from research and other stakeholders, including new curricula and ways of learning a vocation. A contribution to the otherwise under-researched and under-theorised dimensions of vocational pedagogy is this section consisting of six (6) articles. In "*Traditional assignments in Swedish vocational carpentry education of today but changed vocational knowing*", Viveca Lindberg investigates the kind of vocational knowing that occurs in a Swedish upper secondary vocational Craft program, when students are supposed to carry out determined assignments with roots traced to 1920s.

In the following text, Ruhi Tyson explores the various ways narratives can contribute to create practical knowledge and how this can be empirically researched. Drawing on the notion of case ("*the re-collected, re-told, re-experienced and reflected version of a direct experience*"), he argues that significant elements of practical knowledge are of narrative character, and outlines different ways that cases can contribute to practical knowledge.

Harry Cephas Charsmar introduces us in his overview to inter-professional *simulation education* in the medical and health sciences. Current review builds on previous surveys which compiled the research done with regard to progress being made and the challenges inter-professional simulation education need to tackle.

Vocational pedagogy in a contemporary Cuban context is the focus of the article by Juan Mena, Lázaro Moreno & Pedro Yturria. The skills and abilities that apprentices develop, when they engage cooperatively in productive professional activities, are discussed on the basis of results from empirical research conducted in vocational institutions in Pinar del Rio province, Cuba.

The formation of vocational knowing within adult and upper secondary floristry education in Sweden is the topic discussed by Camilla Gåfvels in the article *"Educating the Floristry Gaze"*, which is based on the main results of her dissertation from 2016. Camilla Gåfvels research contributes to bridge the existing knowledge gap and raise our understanding of the evolution of Swedish VET.

In the last article of this section, Enni Paul explores the opportunities available to upper secondary school apprenticeship students, from the Health and Social care program, to participate in vocational literacies during their workplace-based learning. Her research reveals that *vocational literacies* are an essential aspect of vocational knowing, but the access to these literacies is not available to all students during their workplace-based training.

Traditional assignments in Swedish vocational carpentry education of today but changed vocational knowing[2]

Viveca Lindberg[*]

Abstract: The aim of this chapter is to investigate what emerges as vocational knowing based on the main assignments students in a Swedish upper secondary vocational Craft programme are expected to produce. Assignments were chosen as the main focus since they determine what materials and tools are to be used and how they are to be used. In this way they are understood as the core of a learning practice.

Methods: three audio-recorded group-interviews and video-recorded sequences of teaching/learning in the school workshop as well as digital photos for the data for the study.

Result: The roots of the assignments were traced to 1920s, while interviews and video-recordings revealed that several changes in tools, materials and safety regulations had occurred over the decades. A conclusion is that although the assignments

2   I have consequently chosen the concept vocational knowing instead of vocational knowledge or skills. This partly refers to the relational distinction between knowing, the knower, and what is known (Dewey & Bentley 1949), partly to knowing as a person's way of experiencing the world and thereby also relating to it (Carlgren 2009; Hirst 1974). The traditional Western division in knowledge, skills, and attitudes is considered an analytical distinction rather than a description

*   Correspondence: viveca.lindberg@hsd.su.se

could be considered old, they still crystallize vocational knowing that is central for carpenters. However, the content of vocational knowing of the 21st century has changed as tools and materials no longer are the same.

Keywords: Vocational knowing, Swedish upper secondary VET, assignments.

1. INTRODUCTION

This paper is related to a study on Swedish upper secondary vocational education in carpentry, part of a broader study financed by the Swedish Research Council.[3] For this particular paper the main issue that will be illuminated is *What emerges as significant vocational knowing for students in a 3-year upper secondary programme for carpenters?* The focus is on main assignments for the students in terms of firstly, the objects they are expected to produce from their first to their final semester, the main tools and machines students are expected to use for producing these objects.

Assignments have been described as the core of learning practices in school (Carlgren 1999; Lindberg 2003). In compulsory school different school subjects have developed over time and national contexts. Even though changes can be discerned when comparing syllabuses from different periods, there are also similarities. When interviewing former students representing different generations (born in different decades), Borg (2001) found that the interviewees, disregarding of when they had attended school, had been working with the same or similar assignments in textile sloyd. Lindberg (2006) also found that this was the

---

3   Project Dnr 2003-4379 Communication and learning in Sloyd-practices (Lindström, Borg, Johansson & Lindberg, 2003).

case in upper secondary vocational education related to tailoring. The origins of some of these assignments were traced to a specific woman, Hulda Lundin (1847–1921), in relation to the implementation of textile sloyd for girls compulsory school in the late 19th century (Borg 2006; Trotzig 1997). For woodwork in Swedish compulsory school, similar traces lead back to Otto Salomon (1849–1907), also in the late 19th century (Thorbjörnsson 2006) in a way, these examples could be interpreted as examples of frozen traditions. However, such an assumption risks that one jumps to conclusions without a thorough inquiry of data. Generally, the object of schooling is learning, however, this object is too wide for analytical purposes, and therefore needs to be more precise. Here, the focus is on the content of learning – *What content emerges in the assignments students in VET for carpentry as important? What are significant changes in vocational knowing? How do changes in vocational knowing change assignments?* The focus is on the broad picture, not on details. Therefore assignments form the point of departure. In order to come closer to the assignments, also materials, tools and machines needed for the assignments have been focused – what materials, tools and/or machines are students expected to use in their work with assignments? These point at the importance of material conditions for what kind of vocational knowing contributes to the vocational formation of students (Markauskaite & Goodyear 2017)

2. SWEDISH UPPER SECONDARY VOCATIONAL EDUCATION

In this section, the path of Swedish vocational education and training (VET) from mainly work-based (before the 1940s) to

mainly school-based (in the 1970s) is sketched, followed by a brief summary of the two latest reforms where efforts have been made to re-introduce a collaboration between school and work regarding vocational knowing.

Until the 1940s, Swedish vocational education and training (VET) was based on work-based learning, complemented with theoretical education in school. Employment that would guarantee learning of the vocational skills was a prerequisite for school-based learning. However, during the economic recession in the 1930s the problem that was identified was the contradiction that work was a condition for education and since there were no jobs, only few people had access to VET. Therefore a political decision in the early 1940 was a large-scale implementation of a recently introduced model of VET, the workshop-school. The basic idea for this type of school was to build a copy of a workshop into the school and teach vocational skills in a close to authentic environment with authentic equipment and tools. Still there were regional differences as well as differences related to vocations related to length, content and forms of organising VET. It took nearly 30 years until the next significant reforming of basic VET. Since 1970 basic VET has been an integrated part of Swedish upper secondary school (for 16–19 years) with national curricula for 18 vocational 2-year and 4 general 3-year programmes (Nilsson 1981).

In the reforming of upper secondary school during the 1990s, this integration became strengthened on the one hand simultaneously as the link to working life was re-established on the other. A strengthened integration meant firstly that all programmes became of 3-years duration, secondly all programmes fulfilled the *general* requirements for admission to higher educa-

tion, and thirdly, that general subjects were increased from four to eight but the increase concerned not only the amount of subjects but also the share of general subjects in relation to the total time of a program was increased from approximately 20 per cent to 30. However, the assignment to general teachers was to contextualise (infuse) the general subjects in relation to each of the vocational programmes. The re-established link to working-life in curriculum demanded that a minimum of 15 weeks (approx. 23%) of a programme was to be outsourced to an enterprise or organisation, which became responsible for the learning of the students they took on – not only accepting their presence there (Berglund 2009; Lindberg 2003; Wärvik & Lindberg, 2018).

In the latest reform, which came into effect in 2011, the integration was abolished, resulting in that vocational programmes no longer fulfil requirements for admission to higher education. General subjects remain but are again mainly intended as support for vocational subjects, as they were before the reform of the 1990s (Christidis 2014), rather than contributing to other aspects of vocational knowing as they were at the turn of the millennium (Berglund 2009; Christidis 2014; Lindberg 2003). Demands for work-based learning remained, strengthening the responsibilities of the workplace but also that of national and regional vocational organisations.

2.1 THE CRAFT PROGRAMME

Focus in this presentation is on one of the 17 upper secondary programmes that were established in the 1990s of which three were general and 14 vocational. The construction of upper secondary school was built on the idea of broad entries and

narrower exits, for the VET programmes it meant that several occupations, for which some kind of common core could be identified, formed a programme. The common core was formulated in terms of courses common for all directions and national syllabuses were constructed. The Craft programme was probably the broadest VET-programme, with specialisations for as many as 286 occupations. Some of the directions were very narrow, for example saddle makers. The direction that recruited most students was hairdressing. Although the Craft Programme was the broadest programme it was also one of the smallest upper secondary programmes, recruiting in total approx. 1500 students per year. Most schools gave one or a few specific directions only. Here the focus is on carpentry, which was one of the directions offered.

The paper is based on interviews and video-recorded teaching concerning the curriculum that was in effect 1997–2011 and focuses the realisation of school based vocational subjects (Craft) in the workshop for carpenters only.

3. METHODOLOGICAL ISSUES

This data for this article are mainly based on audio-recorded group-interviews with teachers, complemented with video-recorded sequences of teaching/learning in a school workshop. The group-interviews were inspired by a method called collective remembering (Konkola 2002; Lindberg 2006; Middleton & Brown 2005; Middleton & Edwards 1990). The first interview was structured by a time arrow that started with the date of the employment of the teacher who was the first to be employed and ending at the date of the interview. The questions to the

teachers (Who does what? When during the three years? With what?) concerned buildings and spaces, people, tools, machines, tasks, and steering documents and changes in these over this period of time. The second interview was structured by local steering documents – present and past – and any documentation of the teachers' previous work they found relevant. These group-interviews were audio-recorded and complemented by digital photos or copies of documents and objects. The second interview was followed by a teacher-guided tour of the workshop, inspired by Ivarsson (2003) and tried out in relation to VET by Lindberg (2006). Teachers were asked to present the workshop in relation to the assignments given to students as well as the tools and machines that students worked with during at different stages of the programme. This presentation of the workshop was both audio- and video-recorded.

While the initial group interviews were narrative in their character and focusing changes in the local education over time related to teachers, equipment, external demands, and local conditions, the final interview during the presentation of the workshop, focused tools, material and machines but also students' educational path through the workshop focusing on questions like: What is the first assignment given to students? What machines and tools do they use? What is the final assignment of the program?

In total, carpentry teaching in the school workshop was observed and video-recorded during three separate weeks, following a few students each in their first, second and third year as follows: students in their …

- first year were observed while making a garden chair
- second year were observed while making a template for a chair of their choice, and secondly working with intarsia for a wooden portfolio
- third year were observed while firstly finishing an escritoire, and secondly working with their final examination (an object of their choice).

The observations alternated between students as the groups they were often simultaneously in the workshop but different parts of it. In order to get a better understanding of an assignment the choice was made to follow one or two students rather than the teacher, in which case the teaching would have been in focus but instead the students' processes with particular assignments would have been lost.

For the analysis of the interviews cultural historical activity theory has been used as follows: the content of the interviews was organised in relation to a time-arrow, starting with the employment date of the teacher who had been employed for the longest period at the school and ending at the date of the interview. This time arrow highlighted some critical aspects that brought about changes. These were related to local conditions, national governance, technical development, and societal demands.

Then teachers' narratives related to assignments, spaces, tools, materials and rules were used in relation to the time-arrow, which resulted in examples of concrete.

In a second step of analysis the findings from the first step in relation to digital photos and video-recorded observations from the workshop conclusions were drawn in relation to vocational

knowing for carpentry, which here is the main focus of the result. One of the aspects of the results relates to learning focus of an assignment. This has been identified based on what the teacher recurrently points out, emphasizes or asks questions about.

Finally some tensions related to vocational knowing identified in the material are highlighted.

4. RESULTS

Initially, the context for carpentry education in two schools will be presented, followed by a brief description of main assignments observed and described by teachers. The follows more detailed descriptions of three of these assignments, structured by a 1) general description of what the students do and which tools they use, 2) the learning focus of the assignment, and 3) changes in vocational knowing.

4.1 CARPENTRY EDUCATION IN TWO SCHOOLS

The main school fort the study was established in the early 1920s in a small town, whereas the second school from which there is only interview-data was established in the 1940s in a big city. Despite these different contexts, there were several similarities between the schools: they had both been giving carpentry education since their opening, in both schools one of the teachers had been employed since the 1970s and thereby had a long experience of working within the programme and also curricular changes. Furthermore, both schools had been part of a pilot project with a 3-year upper secondary VET-education during the late 1980s.

Finally, with the reformation of Swedish upper secondary school in 1994, both schools had initially chosen to frame carpentry within the Industry programme. Their motivation was that production methods and techniques used were no longer related to *handicraft*, only few people can make a living this way and they are rather considered artists. However, both schools shared the experience that when carpentry was framed in the Industry programme, few students applied and carpentry education was at risk of being closed down. In this situation, both schools decided to reframe their education in the Craft programme, which signalled small-scale production rather than industrial production. According to the teachers, the content remained more or less the same although the curriculum was another.

Content in VET is largely constituted in assignments, tools, and material, since these contribute to shaping vocational knowing. A result of the interviews was that the assignments in the workshop were objects the students were to produce. The following objects largely form what could be called the workshop-curriculum:

First year assignments:
- A garden chair,
- A set of traditional Scandinavian kitchen furniture (two benches and a table),

For both these assignments, the students were given a drawing which they were expected to follow.

Second year assignment:
- Set of chairs (4–6); students either design or choose a model,

- Small CAD-produced object
- Portfolio in wood with intarsia decorations of each student's choice,

Common for the assignments in the second year was that although the objects students were to produce, they were given influence over both the design of the objects or part of the object, whereas process and methods were given. Concerning the object for computer-aided-design, however, there were a few options for the students to choose between but the tools and the process were given.

Third year assignments:
- Escritoire; students either design or choose model,
- Final work; individual choice (from design to product, complemented by written report and oral presentation), prescribed time of 100 hours.

Common for the assignments for students in their final year was that they were given much freedom in relation to various decisions regarding the objects. The escritoire was a given object, but students were allowed to choose among different models or design a model of their own, They were required to use intarsia and dovetails, but were allowed to decide these in relation to their choice of model, materials, and tools. For their final work they were free to make their own decisions as to what object to produce, the design of it, the materials to use – the only frames were the time given for the project and demands on documentation of the process. The kinds of objects produced by the student varied from detailed copies of antique chairs to kitchen fitments

34

for a small apartment, a furniture for music devices and accessories or a set of kitchen table with chairs in according style.

In the following, the focus will be on three of these assignments, the garden chair, the portfolio, and the escritoire. These assignments have been chosen since they highlight the relation between what is often described as the resistance against changes on the one hand and the inevitable change on the other, and what it means in terms of vocational knowing.

4.2 THREE ASSIGNMENTS

In this section, the three assignments will be presented in detail, as will the changes in tools and material needed for making the each of objects over time. Interviews, digital photos and video-observations of students' work have been used in relation to each other for the construction of the results.

1. First assignment – a classic garden chair

Figure 1: The classic garden chair.

With this assignment, the students are introduced to the process from rough sawn timber to product. They are also introduced to some of the machines in the workshop and taught how to use them. Although the assignment is introduced simultaneously to the whole group, the fact that each student makes his/her own garden chair results in individual work and individual schedules, where student will finish their chairs at somewhat different times. Some of the elements of the assignment can be done in individual order, which allows for less waiting time in relation to machines of which there is only one in the workshop. This particularly concerns expensive machines and tools, when it comes to cheaper tools and machines there are more pieces of each. Another aspect of this first assignment is that students are introduced to and us four different techniques for wood joinery. Finally, students also become oriented in the workshop: what machines are where, what kind of work is done where and what can you find in different parts of the workshop. So as a first element of this assignment, they bring the timber from the store, which demands of them to be aware of the different dimensions of timber, how the timber is organised in the store in relation to dimensions and quality. These are aspects that mirror what you could find in many timber stores outside school.

Further, the assignment introduces two literacy tools: the *technical drawing*, which is a kind of instruction to what parts are needed for making the chair, how many pieces of each part that is needed, and their dimensions (length, breadth, and thickness), as well as how these separate parts are to be joined together. When looking at the drawing, it shows that it is a copy of a drawing that is marked with the year it was made, which was 1962, so the teachers are asked who introduced the assign-

ment and they replied "the Swedish National Board of Education". Since VET in 1962 was not organised on a national level, and the National Board of Education was not responsible for VET during the 1960s, a later search showed that this chair was not included in the curriculum from 1970 but instead in the guidelines for the programme. However the guidelines were not published until the 1980s. A similar chair was found to be the first assignment also in the other upper secondary school, which indicates that this is not only a local tradition.

A second tool also literacy based was the *cut list* (figure 1), which is a chart that details the materials needed for an object but also is used for informing the person responsible for the timber store how much of the timber of different sizes that has been used. Each student was to fill his/her cut list in before bringing the timber from the school's timber store. Here the students were expected to use the drawing for calculating how much timber of they would need for making the chair. Both these tools come from the vocation and are introduced already in the beginning of the programme and were used for planning the work.

Once the students had calculated their need of timber and brought it from the timber store, they were expected first to use templates in hardboard for the each of the different pieces of the chair, cut the timber in pieces of appropriate lengths according to the drawing, plane the rough timber in a machine until the ticknes matched that of the drawing, and then use a sawing machine to adjust the breadth of the timber until it matched the drawing. When all pieces were cut into appropriate measures, they were assembled.

The *learning focus* in this assignment was identified as the followings: (i) reading a technical drawing and using it for planning the work,; (ii) using the cut list for calculating the amount

of timber needed,; (iii) using templates of hardboard for cutting the pieces according to the drawing,; (iv) adjust and use plane- and sawing machines,; (v) use various wood joining techniques, depending on both purpose and aesthetic aspects; (vi) respect security regulations and aspects related to each step in the work process (use earmuffs to protect from noise,; safety covers of all machines for prohibiting cuts; etc.).

Changes in vocational knowing identified: whereas timber in the old days was processed with hand held tools (saws, planes), the methods used today involve automated processing with machines. Hand tools demand one type of relation between the carpenters hands, the tool (s)he uses, and the material he works upon. Still it is a question of the relation between the carpenter, the tool/machine, and the material – the difference lies in the focus of the carpenter's attention. When a machine does work that previously was made by hand tools, the focus shifts from one aspect to another. From moving a saw or a plane in a way that does neither destroy the material nor the tools, the focus may shift to the exact adjustment of a machine in relation to the material, and to safety aspects like not coming to close with your fingers to a band saw or a circular saw. According to the teachers interviewed, "modern methods result in more precise work," (VET-teacher 2, August 2006), something that could take years to achieve otherwise. Further, in the old days carpenters had to learn for instance how to distinguish the different stages of dampness/dryness of timber in relation to different purposes. Some types of furniture demand that the timber is very dry before it is used, otherwise the continuing drying process that is enhanced when a piece of furniture is used indoors will result in cracked wood, which is something you need to avoid. Today there is a small electronic device, a kind of needle, which you

stick into the end of a piece of timber. This device measures the dampness of the timber, which allows for immediate and precise decision whether or not you can use the timber for a specific purpose. Before this measuring device was invented, every carpenter had to learn to identify the dampness of the timber with the help of his/her senses (feeling in finger tips, smell). Furthermore, even though some previously used technical tools and machines resulted in faster work process, they also resulted in accidents where carpenters got cuts or even lost fingers. Later technical inventions have strived to build in security into machines and devices in order to further decrease accidents.

In conclusion, this assignment made visible changes from manual to mechanised work, made it easier to achieve a more precise result, and transferred aspects of knowing that previously was tacit (related to senses) into measuring devices, and changed the kind of work-related accidents that were common but also later has built in safety aspects in the tools, machines and devices used.

2. Second year assignment – a wooden briefcase

Figure 3: An example of a wooden briefcase with intarsia decoration

For this assignment, the students were given a model of a wooden briefcase that they were expected to make. The model included the outside measures and demands for a specific design of the joints in the corners of the briefcase – they were to be dovetailed. Further, students were expected to make the dovetails with a specific handsaw, a Japanese saw. They were also required to decorate the briefcase by inlays of different wood (intarsia), the design of which they were allowed to design for themselves.

The origins of this assignment could not be traced in the same way as the previous assignment. However, teacher had photos of briefcases their previous students had made. These showed a great variation in ideas for intarsia, and obviously the students observed working with their briefcases were also inspired by previous students' work, but also brought pictures from magazines, for instance flags, cars, compass roses, etc., that they used as inspiration for their designs of intarsias.

The basic work, to saw pieces of plywood for the frames and sides of the briefcase seemed easy enough, the work that demanded both patience and accuracy was related to the dovetailed corners, the joining of the different parts of the briefcase, and the intarsia. Besides the mentioned Japanese saw, also a file, a chisel, and a hammer were used for the dovetailed joints. The Japanese saw was used for most of the work; the benefit was its small saw teeth, which allowed for the accuracy demanded. The file was used for finishing the dovetails in order for them to fit easily together. The chisel and a hammer were used for cutting out the pieces of wood in one corner of the briefcase that was to be fitted to another corner. When the dovetails for all four pieces were done, the next step was to glue the corners of all four pieces of the frames for the briefcase and to fit them together.

Here a crucial aspect seemed to be to get a right angel (90°) in each of the four corners, another part of this assignment that demanded accuracy and patience. For this purpose, bar clamps were used, both on the diagonals and straight over the sides. These were tightened and the point was to tighten them neither too little nor too much, in which case the previous work would be ruined. While waiting for the glue to dry and checking the angles every once in a while, the next step was the front- and backsides of the briefcase. Fort this, each students chose a main type of wood to use for laminating the plywood, and then complementary types of wood for the intarsia. Depending on the picture the students had chosen to decorate their briefcase with, this work was more or less demanding. However, in all cases the fitting of the laminate for the picture in relation to the dominating laminate needed accuracy, concentration and patience. Some of the pieces of wood for laminating were cut by machine; others were cut by hand with a mat-knife. When all pieces were cut and checked for size, they were sewn together by a specific sewing machine and then firstly glued onto the plywood and then put into a laminating machine for even and firm pressure on the whole piece of plywood. The final parts of this assignment included decorative details for the eight corners, a lock and a handle, and either polishing the whole briefcase with oil or varnishing it for a shiny surface.

Learning focus in this assignment was on accuracy and patience in several steps of the assignment: hand sawing in relation to measures for the dovetails, ensuring that the angles would become right when gluing the four frames, fitting them together, and adjusting the angles with bra clamps, and finally the work with intarsia for the decoration. In any case when a student was

not patient enough, there was a risk of ruining the work.

Changes in vocational knowing: The main changes in vocational knowing in this assignment are related to the final part of the work, the laminating. Today, students use glue that is industrially produced for gluing wood. Earlier each carpenter cooked his own glue, an aspect of the work that comes up in conversations but no longer is taught in carpentry education. Furthermore, the sewing machine, although demanding accuracy of the user, still has made the work with fitting the different parts of the intarsia together, much easier which gives a better quality with less experience. This is also true for the laminating machine – you put the piece of plywood with the intarsia into the machine, press the button, and the lamination is ready. These steps were previously done by hand, thus taking more time and demanding more experience before the result was acceptable. Also the decorative details in metal can today be bought, an aspect that is of importance for the final outlook of the briefcase but not specifically related to a carpenters vocational knowing.

3. Third year assignment – an escritoire

For this assignment, the students either design and make their own escritoire or use any model of an escritoire they wanted to copy or use as inspiration for their work. The instructions for this assignment that limited their choices a bit on the one hand, and demanded them to both practice more on tasks they already had done or use different tools for doing them on the other.

For this object, there are of course several tasks involved that are of repetitive character. The one particularly highlighted here are the dovetailed joint for all drawers. In figure 5 three

larger and two smaller drawers are visible, but once the panel is opened, several small drawers become visible. In their second year, students have made dovetails by handsaw for the wooden briefcase, in their final year they are expected to make dovetailed joints with a dovetail machine. This demands planning the measures for the dovetails and adjusting the machine accordingly. For the adjustment, a three-dimensional planning was needed; otherwise the result was another than the intended. Furthermore, the students need to take into account that only two of four sides of a drawer can be made with similar dovetails, for fitting to these the dovetails of the two other sides must be planned for this. Clamp bars, this time of different sizes for the drawers of various sizes, were again needed for securing right angels in relation to each of the drawers of the escritoire. The use of intarsia was another repetitive task included in this assignment. As for the wooden briefcase, the design and choice of wood was again left to the students to decide for themselves. Therefore the sewing and the laminating machines were once more to be used.

In an article by one of the world famous Swedish furniture designers from the early 20th century, Carl Malmsten (1923), a number of objects were listed that "should be included" (p.) in the education of carpenters, the escritoire was especially pointed out as an important one. In the article there was also a picture of a drawing for such an escritoire by the author:
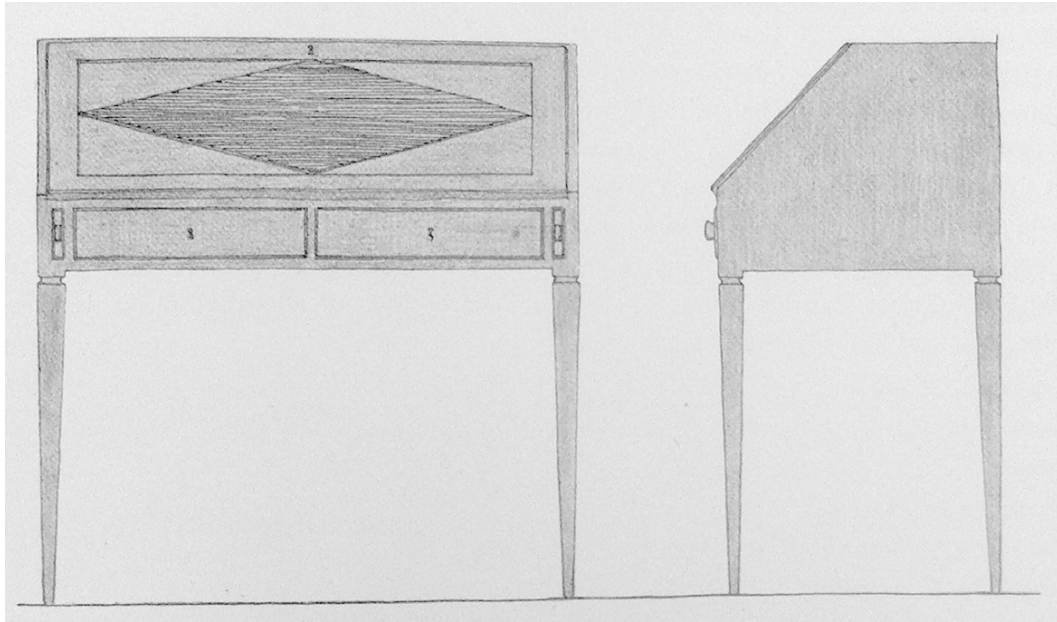
Figure 4: Escritoire, one of the suggested objects to produce in VET for carpenters by Carl Malmsten (1923, p. 15)

For comparative purposes a picture of one of the escritoires made by a student in his third year is shown in figure 5. Intarsia is part of the work in both, as are drawers, compartments (not visible in the pictures, but once you open the front they become visible.

Figure 5: An escritoire made by a student in his 5th semester in 2006.

Learning focus: for this assignment, several decisions were left to the student, from choosing or designing a model and the materials for it, to planning the process for the making of it. Throughout the two previous years of education, the students had used most of the machines in the workshop and were familiar with most tools used. They were also familiar with most of the tasks involved. So the new aspects here were the design and planning and the use of the dovetail machine.

Changes in vocational knowing: partly the changes in vocational knowing are the same as for the wooden briefcase in relation to intarsia. Obviously, the use of a dovetail machine also changes the focus in what there is to be known: working with a handsaw directs the students focus to the sawing in relation to the given marks. One must be careful not to saw outside these marks in order not to make the dovetails too broad or too narrow; in both cases they will not work in the intended way for making a firm joint. An alternative was to use a dovetail machine, in which case the focus is directed to the correct adjustment of the machine. Once the adjustments are correct, the dovetails will be formed for exact fitting – and the machine cuts all dovetails in one or several pieces of wood simultaneously. For this you need to understand how the machine will move in relation to the wood you will feed into the machine and how you must adjust it to produce the wanted dovetails. According to the teachers, students have to be aware of "whether they produce a front-piece, a back-piece or the side-pieces of a drawer, and further which side is the inside respective the outside of each part" (VET-teacher, March 2006). The three-dimensionality seems to confuse some students, in which case it becomes impossible to join the parts into a drawer. Another aspect that has not yet

been touched upon is that when Malmsten made his suggestions for objects of which the escritoire was one, all pieces of furniture were made of some kind of wood. Nowadays wood is both an expensive and a heavy material. A material that has become much used during the last decade is the Medium Density Fibreboard[4] (MDF), which is made of wooden fibres and much used for the making of furniture. Quite often the MDF-board is laminated with a thin layer of wood, which makes it look like it is of wood. The use of this fibreboard makes furniture both lighter and cheaper. However, this material cannot be worked upon in the same way as regular wood, so for the escritoire, the drawers must be made of wood as students were required to dovetail the sides. For the frames, however, the MDF-board was an option, but demanded considering how to join the frames together and prepare for fitting the drawers into the frame.

5. CONCLUSIONS AND DISCUSSION

Although two of the above-presented assignments seem to be of several decades in age and in that respect gives a picture of a vocational education that has not changed much from the 1920s or from the 1960s, there are in fact changes that at a first sight are not obvious. However, not only curricular changes have an impact on what is taught in Swedish upper secondary VET. Changes in working life – the introduction of new tools, new machines, and new material also contribute to changing

---

4   Different types of fibreboard have been used for carpentry also previously, for instance sawdust that has been compressed into boards. The new MDF-board seems to have outperformed previous types of fibreboard when it comes to carpentry.

assignments and thereby also the teaching in school-based VET, as do changes in societal demands on security. Changes in demands on security contribute to technological development but also to the implementation of regulations for workplaces (Lindberg, 2003). The use of earmuffs whenever working in a noisy environment or when using electrical or pneumatic tools are part of the societal regulations that have been implemented as a consequence of not only technological but also medical research related to working conditions. Further examples from the workshop are the compulsory use of devices for the suction of dust in order to improve the working environment, and the introduction of an environmental control program.

The consequences of these regulations are not obvious in relation to single assignments, but instead form the vocational knowing made available for students as a whole since they call for specific approaches to societal issues in each vocation but are concretized in ways that vary between vocations, depending on what is being done, with what tools and material, and in what conditions.

Other aspects, that relate to choices of companies and organisations, that also have an impact on vocational knowing, is the implementation of systems for quality control. These kinds of regulations, related to security, safety, environmental issues, and quality, all contribute to documentation as part of vocational knowing (Lindberg 2003), which partly change assignments – or rather add to vocational assignments and thereby also vocational knowing. By acknowledging such changes, vocational pedagogy therefore can contribute not only to the vocational knowing of individual students, but also contribute to forming approaches to vocational knowing that considers societal issues in a responsible way.

REFERENCES

Berglund, I. (2009). *Byggarbetsplatsen som skola – eller skolan som byggarbetsplats? En studie av byggnadsarbetares yrkesutbildning.* [the construction site as school – or school as a construction site?] A study of construction workers vocational education]. Stockholm: Stockholms universitet. (doctoral thesis)

Borg, K. (2001). *Slöjdämnet: intryck, uttryck, avtryck* [The sloyd subject: impressions, expressions, traces]. Linköpings universitet, Institutionen för beteendevetenskap. (doctoral thesis)

Carlgren, I. (1999). Skolarbetet som en särskild slags praktik [Schoolwork as a specific social practice]. In I. Carlgren (ed.), *Miljöer för lärande* (pp 102–131). Lund: Studentlitteratur.

Carlgren, I., (2009). Kunskapssynen i 90-talets läroplanskonstruktion [The epistemology of the Swedish curriculum construction of the 1990s]. In I Carlgren, E. Forsberg & V. Lindberg, *Perspektiv på den svenska skolans kunskapsdiskussion.* Stockholm: Stockholms universitets förlag.

Christidis, M. (2014). Ämnesintegrering på vård- och omsorgsprogrammet utifrån ett verksamhetsteoretiskt perspektiv [Subject Integration in an upper-secondary Health and Social Care program, from an Activity-Theoretical perspective]. Institutionen för pedagogik och didaktik, Stockholms universitet. (licentiate thesis)

Dewey, J. & Bentley, A.F (1949). *Knowing and the known.* Beacon Press, Boston, 1960

Hirst, P.H. (1974). *Knowledge and the curriculum. A collection of philosophical papers.* London: International Library of the Philosophy of Education.

Ivarsson, P-M. (2003). *Barns gemenskap i förskolan* [Children's communities in pre-school]. Uppsala Studies in Education, 101. Acta Universitatis Upsaliensis. Uppsala universitet, Pedagogiska institutionen. (doctoral thesis)

Konkola, R. (2000). *Yhteismuistelu työyhteisön historiaan liittyvän aineiston keräämisen välineenä* [Collective remembering as a tool for data collection with regards to the history of a work place]. Tutkimusraportteja No. 3. Helsingin yliopisto, Kasvatustieteen laitos, Toiminnan teorian ja kehttävän työtutkimuksen yksikkö. Helsinki: Helsingin yliopisto.

Lindberg, V. (2007). Same syllabus in two contexts: vocational / liberal knowledge? *Research in Sloyd Education and Craft Science, Techne Series A* 10/2007 (75–95).

Lindberg, V. (2006). Contexts for craft and design within Swedish vocational education: Implications for the content. *Journal of Research in Teacher Education*, Vol 13, (1–2), pp 81–102.

Lindberg, V. (2003). *Yrkesutbildning i omvandling: en studie av lärandepraktiker och kunskapstransformationer.* [Vocational education in transition: a study of learning practices and knowledge transfromations] Studies in educational sciences, 64. Stockholm: HLS förlag. (doctoral thesis)

Lorenzo, J. M. A. (2012). *Integracion Educacion-Trabajo: Necesidad de La Formacion Profesional* [Integration of school and work: A necessity for the formation of professionals – in Spanish]. Editorial Académica Española.

Malmsten, C. (1923). Principer för formsinnets fostran i barndoms och ungdomsskolor III Solslöjden *Svenska Slöjdföreningens tidskrift*, s. 1–16.

Markauskaite, L. & Goodyear, P. (2017). Epistemic Fluency and Professional Education. Innovation, Knowledgeable Action and Actionable Knowledge. Dordrecht: Springer.

Middleton, D. & Brown, S.D. (2005). *The social psychology of experience. Studies in remembering and forgetting.* London/Thousand Oakes/New Delhi: Sage Publications.

Middleton, D. & Edwards, D. (1990). "Conversational remembering – A social psychological approach". In D. Middleton & D. Edwards (eds.), *Collective remembering*. London: Sage.

Nilsson, L. (1981). Yrkesutbildning i nutidshistoriskt perspektiv: Yrkesutbildningens utveckling från skråväsendets upphörande 1846 till 1980-talet samt tankar om framtida inriktning [Vocational education from a contemporary perspective: The development of vocational education from the ending of the guilds in 1846 to the 1980s, and some thoughts on future development]. Acta Universitatis Gothoburgensis. Göteborgs universitet

Thorbjörnsson, H. (2006). Swedish educational sloyd – an international success. *Journal of Research in Teacher Education, Vol 13*, (1–2), pp 8–31.

Trotzig, E. (1997). "*sätta kvinnan i stånd att fullgöra sina husliga plikter". Fyra märkeskvinnor och flickors slöjdundervisning.* ["to make a woman prepared for her houshold duties" – Four remarkable women and the sloyd teaching for girls] Studies in Education and Psychology, nr 54. Linköpings universitet.

Wärvik, G-B. & Lindberg, V. (2018). Integration between school and work: Changes and challenges in Swedish VET 1970–2011. In: S. Choy, G-B. Wärvik & V. Lindberg (eds.). *Integration of vocational education and training experiences: Purposes, practices and principles* (279–302). Singapore: Springer.

The functions of narrative in creating practical knowledge: A conceptual framework for empirical research[5]

Ruhi Tyson[*]

Abstract: This chapter focuses on the various ways in which narratives can contribute to the development and constitution of practical knowledge as well as the various ways in which this can be empirically researched. Building on the research done by Schön (1983, 1987), Shulman (2001) and Tyson (2015, 2017, 2018) the argument is made that significant elements of practical knowledge are narrative in kind. The main ones are: articulating knowledge for reflection, enlarging the repertoire of practitioners, eliciting patterns of curricula and educational tasks for the teaching of practical knowledge, enriching the practical imagination and direct contribution to knowledge. The main focus of the chapter is to give these elements context through an extensive discussion of the basic concepts of practical knowledge, cases and narratives. A methodological discussion of how to do research within this framework is also part of the chapter which ends in a concluding section considering ways in which it can contribute to future research.

Keywords: Narrative, practical knowledge, practice.

---

1. INTRODUCTION

One of the frustrations of teaching as an occupation and profession [and this holds true for much professional knowledge across vocations] is its extensive individual and collective amnesia, the consistency with which the best creations of its practitioners are lost to both contemporary and future peers. Unlike fields such as architecture (which preserves its creations in both plans and edifices), law (which builds a case literature of opinions and interpretations), medicine (with its records and case studies), and even unlike chess, bridge, or ballet (with their traditions of preserving both memorable games and choreographed performances through inventive forms of notation and recording), teaching is conducted without an audience of peers. It is devoid of a history of practice.

… We have concluded from our research with teachers … that the potentially codifiable knowledge that can be gleaned from the wisdom of practice is extensive. … A major portion of the research agenda for the next decade will be to collect, collate, and interpret the practical knowledge of teachers for the purpose of establishing a case literature (Shulman 2004, p. 232).

This opening quote from Lee Shulman illustrates the overall direction of the theoretical framework developed in this chapter. It is centered on stories and cases[6] and their potential to con-

---

6   I will be using the term story to refer more specifically to a case with a narrative structure and the term case to refer more inclusively to stories but also other kinds of case documentation such as the documentation of an (educational) task or environment.

tribute to practical knowledge, not just for teachers but across professions. There are four parts to this:

- First a conceptual review of what the terms narrative/story and case mean in the context of practical knowledge.
- Second a review of the ways in which empirical research has suggested that these can contribute to the development and constitution of practical knowledge.
- Third, a review of the various methods available for doing research in the field together with some critical issues and limitations.
- Fourth, and finally, suggestions for how this research can contribute to practice and further studies.

This will be the structure of the chapter. But first a few words on the background to this framework.

It originated in studies concerned with the development of vocational Bildung and phronesis (practical wisdom) where these elements of vocational knowing appeared particularly well-suited to narrative articulations (Tyson 2015, 2017). However, it was also immediately clear that narratives and cases are significant parts of all practical knowledge and this is the perspective being developed here, namely how, why, when and to what degree cases can contribute to practical knowledge. Throughout, Shulman's contention that many professions have much of their practical knowledge already codified in cases of law, architecture, etc., is worth bearing in mind for what it doesn't express: those elements of practical knowledge that are more concerned with eg., ethical conduct, teaching the profession or wider issues of professional practice. Although he writes of "the wisdom of practice", in effect this term (as the intial quote

suggests) is mostly concerned with general practical knowledge and less with issues such as Bildung or practical wisdom. This is also an issue with Donald Schön and his idea of a case repertoire being central to the development of skilled practitioners (Schön 1983, 1987). He states explicitly that he is not concerned with matters such as the development of wisdom (1987, p. xiii). Interestingly, as far as I have been able to determine, Schön never suggested what Shulman did, that a major part of research could consist in collecting cases of practical knowledge in order to establish a literature. As for Shulman, it seems that comparatively little was achieved in practice, a few case-books (Shulman & Colbert 1987, 1988) have been published and that seems to be it (although it is far from impossible that the various subject-fields in education might have individual cases published in their respective journals).

2. A CONCEPTUAL REVIEW OF PRACTICAL KNOWLEDGE, CASES AND NARRATIVES

2.1 PRACTICAL KNOWLEDGE

In order to consider how narratives and cases can contribute to practical knowledge an understanding of what the concept of practical knowledge entails is essential. There are a good deal of suggestions on the matter from a philosophical perspective (Winch 2012 provides an overview). A simple definition of practical knowledge states that practical knowledge is that which involves significant amounts of practice and experience for proficiency. This doesn't exclude propositional knowledge as part of the practical it just doesn't focus on it even though most practical knowledge contains extensive propositional elements that

need to be known. The definition has the advantage of bypassing 'skill' as a concept since the meaning of skill is contested und unclear (cf. Frayling 2011; Hinchliffe 2002; Lum 2003). It also allows for practical knowledge to be of different kinds like manual, social or intellectual which accords with common sense. Writing a thesis requires practice and experience just the same as learning a craft or a socially oriented vocation.

One might ask if the problem isn't that this definition is too wide. What doesn't fall under the term practical knowledge? Here the commonly used antithesis "theoretical knowledge" can be understood in two distinct ways.

First, and probably most frequently, in the sense of having secondary knowledge about something, knowledge that is not grounded in personal experience and practice but in having heard about the matter from another source (be it books or word of mouth). It does not suffice then, only to read about the contents and methods of a vocation, one must also engage with them to develop practical knowledge.

Second, there are fields of knowledge that do not require much practice such as a lot of basic conceptual development.

Third, Polanyi (2004) and Dormer (1994) have also worked with the distinction between an expert and a connoiseur. Briefly put, an expert has practiced the skills required to produce something whereas a connoisseur predominantly has experience in the appreciation of something but not practice in its making (at least not in the systematic or broad sense often required for expertship). There are some exceptions here such as the art-critic or sommelier, both vocations that can be said to have professionalized connoisseurship.

In connection with Polanyi one might also consider the concept of tacit knowledge which has received one of its two most

common definitions from him (Polanyi 2009). He characterizes tacit knowledge as that which remains in the background while we focus on something particular in the foreground. Thus what is tacit shifts depending on what we choose to consider at the moment. The other definition is more from the point of view of Wittgenstein and states that tacit knowledge is that part of our knowledge that we are unable to articulate (for the moment or absolutely). It is more often this version that tends to be cited when arguments are made that practical knowledge is largely that which is tacit creating the appearance that we have theoretical knowledge that can be articulated and practical knowledge that is only in part articulable. This carries similarities with Ryle's distinction between "knowing how" and "knowing that" (Ryle 1949). For a critique of these distinctions see Winch (2012).

It seems reasonable that various forms of tacit knowledge are important parts of being practically knowledgeable. There are things we cannot express adequately (at least in words) but that we can easily demonstrate. There is much that one forgets in the process of becoming an expert and that therefore retreats into tacitness. Thus it would be a massive exaggeration to suppose that all practical knowledge could be articulated as narratives and cases. The argument here is limited to the claim that significant and important elements of practical knowledge can be articulated as cases and that there are few, if any, a priori limits to what one might express in this manner. The limitation is more of a practical nature, as the number of cases grows we must exercise a greater degree of discernment in deciding which cases are important enough to be memorized. Since this argument is not a argument on principle but an empirical one, the actual cases are required to demonstrate its full validity. This falls outside of

the scope of this chapter but has been extensively discussed in Tyson (2016a, 2016b).

Clearly a case that has been articulated cannot supplant experience and practice for someone else only enlighten them and allow for practice to proceed more swiftly as well as with more structure. In a sense there is a spectrum that runs from practical knowledge that is almost entirely acquired through non-verbal experience and practice to practical knowledge that is developed in a largely verbalized context (be it oral as was common in the Medieval crafts or written as is frequently the case today). The argument here is that most, if not all, fields of practical knowledge benefit from becoming verbalized in case-form since the articulation and documentation of practical knowledge in this form allows for more systematic reflection and development. A common experience in many crafts, especially those with long traditions, is that practices entrench themselves that are not necessarily beneficial and that these are difficult to deal with because they are allowed to remain largely tacit or they are not open to systematic and comparative exploration.

One further issue that needs considering is concerned with the degree to which one emphasises practical knowledge or practice in the sense of being engaged in a vocational practice. The former has a more individual slant whereas the latter puts the weight more on the social element of being practically knowledgeable. In other words, as the distinction is understood here, the main difference is that a practitioner *has* practical knowledge, which enables her to *participate* in a practice. For practical knowledge to become properly vocational one might well contend that it needs to be developed within the context of a vocational practice, ie. a context shared with other practitioners. This is hardly

a strict matter since vocations come and go. When a vocation is first established its practice cannot be considered pre-established, a contributing reason for MacIntyre to dismiss for example management as being part of practice. His argument is that management and other new vocations lack an established tradition and therefore a practice. A more nuanced view is that vocations, both new and old are part of several overlapping practices and traditions given the regional and cultural differences that exist. If management as an example of a new vocation can be said to be part of a practice today is an empirical question to be explored. Thus, the connection between vocational knowledge and vocational practices can be assumed for the most part but is not always necessary.

Another way of clarifying the distinction is that I do not teach a practice, I initiate someone into it as MacIntyre puts it (2011). I do teach or coach practical knowledge. There is a tension here in that practical knowledge can be reduced to skills and thereby extensively divorced from any larger practice context. A vocational practice is something that requires a fair amount of education (formal or informal) to be initiated into because it includes its own history, culture, and excellences. The framework presented here is a way of aiding in what could be called the co-articulation of practical knowledge and practices, of instances where practical knowledge is taught or expressed in a way that is not separated from a practice but rather contains the possible richness of that practice (cf. Tyson 2018 for a more extensive discussion).

Finally, this understanding of practical knowledge also fits well with that established by Aristotle (2009). He distinguishes between two kinds of practical knowledge, the vocational

(techne) and the interactional (phronesis). The vocational is concerned with making or producing in the widest sense of the term (making cabinets, producing health) and the interactional is concerned with doing, the purpose of which is to bring about human flourishing. This is called phronesis (practical wisdom). For Aristotle, theoretical knowledge (episteme) was mainly a contemplative activity concerned with eternal laws and truths (theoria literally means contemplation in greek). He distinguishes then, between knowledge that is changing and related to particular circumstances and knowledge that is eternal and unchanging in relation to the particularities of life. This can be viewed as an elaboration on experience and practice since the whole reason practical knowledge requires experience and practice is the fact that life and circumstances continually change. To be practically proficient is to be able to adapt to these changes in a particular context (a vocation for the most part).

2.2 CASES

At this point we can turn to the argument advanced by Donald Schön (1983, 1987) that an expert practitioner is expert largely thanks to the experience of a great number of cases. In other words, experience and practice can also be understood as the accumulation of cases. Cases are defined here as a distinct unit of experience and/or practice. Or, as Shulman writes:

> We do not learn from experience; we learn by thinking about our experience. A case takes the raw material or first-order experience and renders it narratively into a second-order experience. A case is the re-collected, re-told, re-experienced

and re-flected version of a direct experience. The process of remembering, retelling, reliving and reflecting is the process of learning from experience. (Shulman 2004, p. 474).

This quote from Shulman stands as a paradigmatic summary of what a case is.

Generally, cases mean somewhat different things to the practitioner having experienced a case of something and then having verbalized this as a narrative and to the practitioner who hears or reads this narrative but is yet to experience that or a similar case. For the latter the narrative can serve to enlighten the coming experience just as it can serve to enlighten the experience of someone in the middle of a difficult practical issue to which the case provides a partial or full solution.

The extent of a case, if it covers a page or two or is comparatively long depends on length of the process covered and the level of detail. An extensive case might be the entire design-process of a building for an architect and a smaller one the experience of how a group of buildings create a social and natural space together. Some cases might consist mainly in the elaboration of techniques and materials used as is common among crafts. Other cases, especially in vocations where social interactions predominate, need to be articulated verbally or captured on film in order to be documented. Depending on the scale of the case and the character of the vocation, a case can be more or less understood as a rule. Some vocations have significant elements to them that are given in almost all circumstances, especially if one looks to comparatively narrow cases. For example, in bookbinding hide glue needs to be soaked in cold water for several hours before it can be heated and used. This case has so few (if any) exceptions

that it can be considered a rule and therefore it requires comparatively little in terms of experience and practice to learn. On the other hand pairing leather includes understanding differences in the shape of pairing tools, the character of leather from different animals and different parts of the animal, what to do if the leather is uncommonly dry or uncommonly elastic, etc. This is complex enough that an expert bookbinder can be assumed to have experienced several cases of unusual behavior through which the expertise has been expanded. This also illustrates one of the more important differences between cases as contributors to practical knowledge and general practicing.

Important cases are cases that represent deviations from standard experience. Cases that simply illustrate a general rule can be helpful in order to memorize a rule but they do not really contribute to the expansion of practical knowledge. Cases of unproblematic social interaction teach us little about such interaction (from a practical point of view and disregarding the issue of when and how something is "unproblematic") since one of the major differences between a novice and an expert is the capacity to deal with deviations from the general norm. This capacity is largely case-based. This is a central aspect of the framework, to search out areas of practical knowledge that are difficult to become expert in because deviating cases are either seldom encountered or they are encountered very randomly and thus elude planning or we have come to accept a certain level of practice as sufficient and thus there is little further development towards excellence (ie., the deviations remain unrecognized as a potential source for development).

Depending on the frequency and predictability of deviations cases are more or less rare. For example, unusually dry leather

can be saved and purposefully given to an apprentice to practice on since this kind of deviation is predictable and even possible to plan for. In social interaction such matters become far more complex. One cannot reasonably plan for arguments or conflicts (at best one might role-play them) and some important deviations might be relatively uncommon but still important to have knowledge of. There is also a difference regarding the degree to which a vocation might have articulated and documented common and important deviations from practice. Again, in the crafts this is comparatively common in my experience. It is less common in education, something the inital quote from Shulman testifies to. In vocational fields where there is a comparative lack of shared knowledge regarding cases of deviations, the previous issues are compounded with a general lack of systematic awareness regarding what should even be regarded as a deviation as well as difficulties engaging in systematic development of practice. In general this is the case in fields where interaction predominates and where there are comparatively few material traces left after work is completed. A bound book can always be taken apart to analyze the techniques and materials used in binding it. It is not as easy to trace the process that culminated in a healthy patient or a knowledgeable student. One of the central aspects of this framework is hereby touched on: narratives function as a way of articulating important cases of practical knowledge, especially in vocational fields where social interaction is a large part of the professional activity.

Not all cases are narratives in the strict sense of telling some kind of story with a beginning and an end. But many more cases are narratively expressed in the wider sense of being predominately verbal rather than, say, material or visual.

Paradoxically, the capacity for orally transmitting this kind of case knowledge was likely more developed in less literate times and contexts than ours. The general drift towards academic vocational education and literary practice has brought an emphasis on propositional expressions where knowledge is summarized in generalizations. There can be little doubt that this has been a powerful tool for developing certain elements of practical knowledge but it has contributed to a (presumably unintended) situation today where we are less likely to express our experience in case-narratives. Thus, in an important sense, many fields of practical knowledge run the risk of returning to a more tacit state because we take written reflection to be mostly reflection in the form of propositional abstractions rather than narratives.

2.3 THE PRACTICAL IMAGINATION

To better understand the issue here we can consider in more detail what a case actually provides to a practitioner about to engage in some practice. As previously stated, the craftsperson engaged in leather pairing can probably get by with the help of experience and some general rules of thumb because most problems encountered are relatively easy to predict and their solutions are generally invariant, ie. a specific problem almost always calls for the same kind of very concrete solution. However this is not always the case in craftwork and certainly not in social or intellectual work. In effect, issues that arise require a greater degree of *practical imagination* in order for us to find a corresponding action. Cases act as a way of expanding ones imaginative repertoire. Similarly to how an artist enriches her

imagination through the study of the art of others and the poet hers through the study of the poetry of other poets, any practitioner enriches his or her imagination through partaking in the cases of other practitioners in the field. A lack of stories leads to an impoverished practical imagination and this can only be compensated through propositional abstractions in a very limited manner since they remain largely separate from the particularities of practice. A well-narrated case hovers, as it were, between the unique particularity of a situation and the generality of a proposition allowing a practitioner to move between the general and particular with greater ease and creativity.

To conclude then, a well developed case literature is a way of enriching the practical imagination of practitioners. Before I continue to further consider the various ways in which cases can contribute to practical knowledge there is also a need to look more closely at the various kinds of cases that can be documented.

2.4 WHAT KIND OF CASES CAN WE WORK WITH?

Thus far I have been content with calling attention to cases as being interesting when they deviate from the norm. This is a simplification. There are at least three predominant case study forms that this kind of research can take: extreme/deviant cases,[7] paradigmatic cases and epistemic cases. The first two terms are taken from Flyvbjerg (2001) and the third is my adoption and reformulation of case studies aiming at conceptual development

7   I would have preferred another term here such as critical rather than extreme/deviant but Flyvbjerg (2001) uses the term critical case for something different and it seems odd to invent another term for what Flyvbjerg has already characterized.

and enrichment, what could also be termed philosophical case studies given the prevalence of such cases in some philosophical writing. To be clear, the extreme/deviant case is the basic case form and the paradigmatic as well as epistemic case forms sometimes result from it.[8]

A unifying feature of all three case designs, epistemic, extreme and paradigmatic, is that the emphasis is placed on choosing cases which are unusually rich, wise and successful or where an error can convey unusual insight. This appears to be one of the more distinct contrasts with other, similar, work in narrative inquiry such as teacher lore and pedagogical content knowledge where no such emphasis is made or, in the case of Shulman (2004, p. 469, 481) rather the opposite, where teachers are asked about matters causing them problems or surprises. This is no argument against such inquiry on principle, there is much to be learnt in the context of teacher education, not least dealing with unsolved problems, errors and failures, but there are a couple of practical reasons why a different approach is argued for here.

1. The emphasis on unusually rich, wise and/or successful narratives maximizes the chance of the narrative being an extreme/deviant one in a way that is practically relevant, ie. relevant for further practical action.
2. Elements of practical knowledge regarding morally charged matters such as Bildung and practical wisdom

---

8 Both Flyvbjerg (2001) and Larsson (2009) also talk of Black-swan cases which question previously taken for granted assumptions. The kinds of narratives discussed here can be assumed to sometimes function as black swans to one's personal capacity for imagining practical action but this is more incidental than any systematic element of the approach.

are most relevant to search for not so much in the average routine of daily life as they are in its exceptional peaks (including those that happen daily or once a week and perhaps do not appear as such unless actively thought about thusly). This is an epistemological issue, practical wisdom develops through exposure to good examples/role models, not because we produce more and more tales of average or outright bad examples/role models. It is also about continuously pushing the boundaries of what we understand as wise practice since issues that have strong ethical components should not be satisfied with the status quo no matter how good it seems. There is an exception here in failure as part of wisdom but this is an exception not the main part of becoming practically wise.

3. The practical imagination is generally more enriched through unusual excellence than through average or outright bad cases. This has its exceptions but they are exceptions.

4. Cases of paradigmatic errors can also serve to accelerate understanding in how to navigate difficult issues of practice.

2.5 PROBLEMS AND DISADVANTAGES WITH CASES

Shulman (2004, p. 213f.) considers some of the disadvantages with cases in an endnote:

> Kahneman, Slovic, and Tversky (1982) have pointed out the potentially misleading character of cases. They refer to the memorable quality of vivid cases as a significant source of bias in reasoning. Both availability and representativeness are

characteristics of cases that make them readily retrieved from memory; they also bias the decision maker's estimate of the frequency of their occurrence. The important test of a case is its contrast with other cases and its examination in the light of principles. Such disciplined evaluation of cases can temper the inappropriate inferences that might be drawn from cases without diminishing their other virtues.

Similarly, Moon (2010, p. 75f.) notes, that there are studies that show a reduced critical awareness when statements contrary to known fact are couched in narrative terms. It means that systematic work in this field often calls for a multiplicity of narrative cases that express aspects of practical knowledge in contradictory ways. There is a more extensive discussion regarding the potential problems of working with narratives in Tyson (2016a, p. 364f.). Briefly put, these concern issues of using cases anecdotally rather than as sources of practical knowledge, of interpreting them either too literally or too liberally, of taking them out of their context and also some inherent conservative tendencies in narrative presentational forms.

These issues regarding narrative highlight the importance of combining extreme/deviant cases with a focus on unusually rich and successful practice. The deviancy of a case distances it from representativeness and the unusual richness turns some of the bias into a strength rather than weakness. However, there still remains a need for contrasting extreme cases and a temperance of conclusions drawn.

It follows from all this that the extreme/deviant case is information rich because it says something about a practice that doesn't simply corroborate what we expect, ie., it is *not* a representative case (although in some instances it might well be

important to an inquiry within this framework to consider representative cases, this remains an empirical matter).

Extreme/deviant cases can go on to become epistemic cases when the deviant character of the case can be used to drive epistemic theorizing. Finally, it is also possible that some extreme/deviant cases may turn out to be paradigmatic cases that, as Flyvbjerg writes (2001, p. 79): "develop a metaphor or establish a school for the domain which the case concerns." He goes on to note that it is difficult to say exactly how one goes about recognizing a paradigmatic case and quotes a conversation with Hubert Dreyfus who referenced Heidegger in saying one recognizes a paradigm because it shines. I find the metaphor apt.

3. THE CONTRIBUTIONS OF NARRATIVES AND CASES

An important element of this chapter is outlining the different ways that cases and narratives can contribute to practical knowledge. To begin with, the cases and narratives at the center of attention are narratives of actions in a wide sense and these become distinct as practical knowledge (as something more than experience), for two reasons: 1) because they are told in a practically relevant way, with sufficient detail etc. 2) because the perspective brought to the inquiry by the scholar is one that asks for certain kinds of stories told in certain ways, eg., focusing on social interactions. Also, it is important to repeat that cases and narratives do not contribute directly to the part of practical knowledge that is dependent on practice in the sense of repeated action. A person may read any number of good cases regarding social interaction and not increase her capacity for actually interacting with other people.

Here is a brief look at the various ways, based on a number of empirical studies, that cases and narratives have been considered as parts of practical knowledge:

1. As articulations where they make previously tacit aspects of action available for reflection, this presupposes some skill/ability/capacity that can be enriched throught the case (Tyson 2016b).
2. As contributions to the repertoire of cases that a practitioner has and draws from in enganging in actions in situations similar to that of the case (Tyson 2016a, b).
3. Related to this, as patterns for the construction of educational curricula and tasks. These are still a form of repertoire only not geared towards immediate social action (Tyson 2016c, d).
4. As enrichment of a person's moral, pedagogical and practical imagination which in turn is a central part of being excellent in a vocational practice. Virtuosity is not limited to the ability of enacting a skill or virtue but mastery implies the capacity to imagine what is not already present, ie. to go beyond the given (Tyson 2016a, b).
5. As direct contribution to the practical knowledge that is practical wisdom because practical wisdom is narratively organized. A phronimos or practically wise person doesn't have to be able to express that capacity as narratives but being able to do so can hardly detract from it (Tyson 2016b).
6. As direct contribution to Bildung-related practical knowledge because Bildung is biographical and the biographical is also narratively organized (Tyson 2016a).

This multiplicity of ways in which cases can be used to contribute to the development and constitution of practical knowledge can be confusing but is also the basis for the potential that the approach possesses. It does require a clear perception on the part of the researcher regarding what aspects, exactly, that are the momentary focus of an inquiry. Generally speaking the same case can be understood from several of the above perspectives making it important to be transparent about the perspective/s being employed in any particular inquiry. Given that the outline above was developed specifically with Bildung and practical wisdom in mind it is also possible that a wider, explorative approach to practical knowledge in general might also yield further aspects where cases can contribute. This is an empirical matter rather than an a-priori conceptual one. It is also unclear to what extent each aspect can contribute. As it stands empirical research in this field is so limited that these should be taken more as suggestions than as absolute certainties. Only a significant number of cases and time will tell which, if any, prove to be useful in a more extensive manner.

4. METHODS OF DESIGNING AND ENGAGING IN CASE-ORIENTED RESEARCH

4.1 RESEARCH DESIGN AND PHRONETIC SOCIAL SCIENCE

The research design in this approach is based in case-study methodology with an added phronetic (Flyvbjerg 2001) focus. To explain this kind of research focus Flyvbjerg writes (2001, p. 162):

> What identifies a work in social science as a work of phronetic social science is ... [that] it focuses social analysis on praxis in

answering ... (1) Where are we going? (2) Who gains, and who loses, by which mechanisms of power? (3) Is it desirable? (4) What should be done?

This has been modified here into:

1. Where do we *want* to go? Answer: a more systematic, rich and diverse practical knowledge.
2. By what means can we achieve this? Answer: in part through case narratives of enacted and experienced practice.
3. Is it desirable? Answer: to the degree that one agrees with the premise that our practical knowledge is in need of this kind of development, particularly in the social sphere.
4. What should be done? Answer: clarify what case-narratives can contribute to practical knowledge and how this works, do more such research, encourage more action.

The main difference lies in the more critical approach that may well be necessary in social and political studies compared to the kind of practically and vocationally oriented studies suggested here. This is reflected in the concluding remarks from a collection of phronetic case studies, that some of the actions taken by researchers in phronetic social science are to (Flyvbjerg et. al. 2012, p. 290):

1. actively identify dubious practices within policy and social action;
2. undermine these practices through problematization; and
3. constructively help to develop new and better practices.

The present approach reverses the order of these steps and only makes the third one explicit. Because the focus is on articulating unusually rich and successful case narratives of practical knowledge it begins with trying to constructively help to develop existing practices. But at the same time, as the number and quality of such case narratives grows they can also begin to problematize aspects of practices that are, perhaps not dubious but impoverishing, in the sense that the practice does not enrich its participants as much as could be possible. The cases could then function both to undermine impoverishing practices by showing the possibility of other ways of acting and identifying them in the first place. The basis for judging what counts as an impoverishing practice is entirely relative to the cases at hand. If, for example, a hospital contains a practice that is comparatively impoverishing from this point of view requires one or more cases that demonstrate what a more enriching practice could look like. Of course, at a certain point other ways of measuring this come into play such as rate of employee turnover, levels of stress and sick-leave, etc. But that is the point where we are already entering into what might well be considered a dubious practice, ie. a practice that actively contributes to the misery of those participating in it.

There exists, then, a certain tension between this kind of fundamentally optimistic perspective and the kinds of critical, social and political perspectives hitherto gathered under the name of phronetic social science and described above. Such tension is not there to be resolved but to awaken one's attention to issues in one's research that tend to be ignored or recede into the background. In inquiries regarding vocationally practical knowledge questions such as: "where are we going?" could well be raised

given the many critical voices that are heard. Some examples of this concern the troubling aspects of modularization in VET (eg. Ertl 2002), instrumentalization of education in general (eg. Biesta 2010), the issues that globalization brings to matters of VET and higher education (eg. Lauder 2011, Spring 2008) and problematic political influence on educational systems (eg. Lundahl et al. 2010). Similarly, questions of who gains and who loses are possible to ask and are definitely relevant given the uneasy connotations of terms such as employability, lifelong learning and entrepreneurship (to pick three out of many), as they are used by eg., UNESCO (2005) on the one hand and OECD (2010) on the other.

4.2 METHODOLOGICAL CONSIDERATIONS IN DOCUMENTING CASES

The criteria for what constitutes an extreme/deviant, paradigmatic or epistemic case depend on the aspects of practical knowledge one is studying and cannot be, as far as I can determine, given in advance. One simple criterion has been to let the participants decide by asking them for unusually rich experiences. This requires some work by the researcher afterwards in order to structure the collected cases. It is a criterion that works best when conducting initial exploratory research but that might need to be changed if the inquiry is more specific. Some such criteria can be formal like requiring a certain amount of expertise from the participants.

The two methods employed in collecting cases thus far have been interviews and written assignments however video-documentation and other observational methods seem equally use-

ful depending on the kind of practical knowledge one wishes to explore. A significant reason why interviews and written documentation are useful as methods is that the focus on unusually rich cases tends to make observations difficult since it is seldom possible to plan for an observation to encounter deviations from the norm. If one is looking to document cases of eg., unusually rich social interaction the criteria for choosing cases would need to be quite well worked out in order to ensure interesting and relevant observations. Otherwise chances are considerable that one ends up observing everyday normal interactions rather than deviations.

A strength of having participants write their narratives rather than interviewing is the comparative ease with which the written narratives can be presented in their entirety whereas interviews almost always need editing. Written narratives make reanalysis by other scholars of the same data that much easier and is especially important in a research context where there are many ways of approaching the same case narrative. Another aspect that makes written narratives valuable is the comparative ease with which they can be given to larger numbers of people. Interviewing takes time, especially in the transcription and editing parts, whereas presenting a writing task to a group of thirty people has been possible in 30–45 minutes and results in finished stories. Although interviewing allows for richer stories as the conversation unfolds, writing one's own makes it more distinct and open to reflection than speaking it, at least potentially affording participants a clearer view to what they want to say.

There are drawbacks to written cases as well. The task to write is easy to give if the case narrative is limited to a single event or series of events whereas larger educational biographies are dif-

ficult to ask for given the extensive scope of these. The written narratives are presented as finished products and it is often difficult to go back and ask the writers for more information or detail. Finally, not everyone is proficient in writing their own story whereas almost everyone is capable of telling a story within the framework of a conversation in which the listener assists in the creation of the narrative.

In both interviewing and writing the most important issue is that the participants need to create sufficiently detailed case narratives. The actions and dialogues at the center of the case need to describe what happened to a degree that allows the reader to be able to replicate them. This can vary in practice between more or less repeating the same actions as described in the narrative (or creating the same or similar curricular structures, environments, etc.) and drawing on it for inspiration when considering action in similar circumstances. The point is, too general of a narrative might be interesting in many ways just not as a narrative exploring practical knowledge.

4.3 STRUCTURING DATA AND ANALYZING IT

There is less to say in a general manner on this topic. Depending on the exact purpose of the inquiry it is reasonable to assume this can vary. The research that has contributed to the development of the framework (Tyson 2015, 2017) has largely been explorative and the structuring as well as analysis has largely been thematic, ie., categorizing data according to themes such as ethical or aesthetic matters.

The analytical work that needs to be done is mainly the contextualization of the narratives in a wider research-based framework, something that cases from practice otherwise tend to lack. Larger

numbers of cases also allow for comparative analyses. It needs to be underscored that since the research aim is phronetic, the kind of conclusions drawn from analysis are not the standard theory-generating ones, since the aim is to increase our practical wisdom. Thus, the conclusions aim to support further development of practice. This represents a significant deviation from much educational research and can pose difficulties when arguing for it as research. Looking at the various aims outlined previously in section 3, all, except when cases function as templates for the creation of curricula, produce results that are immediately practitioner-oriented. As such, it can well be argued that this kind of research is best fitted to be presented in practitioner handbooks something that is supported by the comparative length of cases making the reporting of more than a small sample difficult within the format of articles or single chapters. Perhaps this is also the situation that all but the exploratory stages of this kind of research faces. In the explorative phase, much work goes into conceptual development which is then the main result of analysis. As this passes, analysis becomes more practice-oriented. However, by expanding the framework beyond cases of Bildung and practical wisdom, to cover practical knowledge in general, it may well be that many issues not yet considered will appear, necessitating revisions and expansions regarding methods of analysis and the kinds of conclusions supported by such inquiries.

5. CONCLUSIONS AND SUGGESTIONS

The aim of this chapter has been to take the framework developed in the course of recent research (Tyson 2015, 2017) and to expand it to cover general matters of how narrative contributes

to the development and constitution of practical knowledge. Although the original focus on Bildung and practical wisdom remains important given the particular difficulties of accessing these aspects of practical knowledge much more is possible. Here are a few suggestions:

- Explorations into the tacit aspects of practical knowledge by asking practitioners about cases regarding unusually difficult issues to express verbally or by asking them to point to central elements of their knowledge that they are unable to express but that can be observed.
- Explorations into cases of epistemically important errors, ie. errors that when explored can contribute significant understanding in some context, and the systematic documentation of these.
- Explorations into paradigmatic cases of practical knowledge in a field thereby outlining points that warrant focused attention in training.
- Explorations of unusually rich tasks and environments for teaching aspects of a vocations practical knowledge.
- Explorations of the potential patterns that might emerge when skilled practitioners talk of cases central to their skill development.

The above suggestions result from reflections on what might be interesting to inquire into using this framework. However, the biographical approach used in Tyson (2015, 2017) has the benefit of being more open-ended. Choosing to interview an unusually skilled practitioner about his or her vocational education and vocational practice, asking about unusually memo-

rable events, holds the potential to reveal new and fascinating aspects of practical knowledge. The original extensive biographical interviews with craft-master Wolfgang B. (Tyson 2015) swiftly narrowed the focus to Bildung and practical wisdom owing to the contents of the interviews, but one might reasonably assume that this was an effect of his particular background and vocation (and our particular shared history and interests). A similar interview with a medical doctor, nurse, class teacher or psychologist would perhaps yield perspectives where the practical knowledge articulated was different. A larger scale comparative study of the kinds of cases of practical knowledge that different vocations tend to produce would presumably be highly interesting.

REFERENCES

Aristotle. (2009). *The Nichomachean ethics.* Oxford: Oxford University Press.

Biesta, G. (2010). *Good education in an Age of Measurement. Ethics, politics, democracy.* Colorado: Paradigm Publishers.

Dormer, P. (1994). *The art of the maker. Skill and its meaning in art, craft and design.* London: Thames and Hudson.

Ertl, H. (2002). The concept of modularisation in vocational education and training: the debate in Germany and its implications. *Oxford Review of Education, 28*(1), 53–73.

Flyvbjerg, B., Landmann, T. & Schram, S. (2012). *Real social science. Applied phronesis.* Cambridge: Cambridge University Press.

Flyvbjerg, B. (2001). *Making social science matter.* Cambridge: Cambridge University Press.

Frayling, C. (2011). *On craftsmanship.* London: Oberon Books.

Grimen, H. (1991). *Taus kunnskap og organisasjonsstudier.* Bergen: Los-senteret notat.

Hinchliffe, G. (2002). Situating skills in *Journal of philosophy of education, 36*(2), 187–205.

Johannessen, K. S. (1990). *Essays in Pragmatic Philosophy, II.* Oslo: Norwegian University Press.

Kahneman, D., Slovic, P. & Tversky, A. (1982). *Judgment under uncertainty: Heuristics and biases.* New York: Cambridge University Press.

Larsson, S. (2009). A pluralist view of generalization in qualitative research. *International Journal of Research & Method in Education, 32*(1), 25–38.

Lauder, H. (2011). Education, economic globalization and national qualifications frameworks. *Journal of education and work, 24*(3–4), 213–221.

Lum, G. (2003). Towards a richer concept of vocational preparation in *Journal of philosophy of education,* (37)1, 1–15.

Lundahl, et al. (2010). Setting things right? Swedish upper secondary school reform in a 40-year perspective. *European journal of education, 45*(1), 46–59.

MacIntyre, A. (2011). *After Virtue.* London: Bloomsbury.

Moon, J. (2010). *Using story in higher education and professional development.* New York: Routledge.

OECD. (2010). *Learning for jobs: OECD policy review of vocational education and training.* DOI:10.1787/9789264087460-en.

Polanyi, M. (2009 [1966]). *The tacit dimension.* Chicago: University of Chicago Press.

Polanyi, M. (2004 [1962]). *Personal knowledge. Towards a post-critical philosophy.* London: Routledge.

Ryle, G. (1949). *The concept of mind.* London: Hutchinson's University Library.

Schön, D. (1987). *Educating the reflective practitioner.* San Francisco: Jossey-Bass Publishers.

Schön, D. (1983). *The reflective practitioner.* New York: Basic Books.

Shulman, L. (2004). *The wisdom of practice.* San Francisco: Jossey-Bass Publishers.

Shulman, J. & Colbert, J. (eds.). (1988). *The intern teacher casebook.* San Francisco: Far West Lab. for Educational Research and Development.

Shulman, J. & Colbert, J. (eds.). (1987). *The mentor teacher casebook.* San Francisco: Far West Lab. for Educational Research and Development.

Spring, J. (2008). Research on Globalization and Education. *Review of Educational Research, 78*(2), 330–363.

Tyson, R. (2018). What is excellence in practice? Empirical explorations of vocational Bildung and wisdom through case narratives. *Vocations and Learning, 11*(1), 19–44.

Tyson, R. (2017). *The Rough Ground. Narrative explorations of vocational Bildung and wisdom in practice* (Published doctoral dissertation). Department of Education, Stockholm University, Stockholm, Sweden.

Tyson, R. (2016a). The didactics of vocational Bildung: How stories matter in VET research. *Journal of Vocational Education and Training 68*(3), 359–377.

Tyson, R. (2016b). Pedagogical imagination and practical wisdom: the role of success-narratives in teacher education and professional development. *Reflective Practice 17*(4), 456–471.

Tyson, R. (2016c). What would Humboldt say? A case of general Bildung in vocational education? *International Journal for Research in Vocational Education and Training 3*(3), 230–249.

Tyson, R. (2016d). When expectations clash: Vocational education at the inter-section of workplace and school. *Interchange 47*(1), 51–63.

Tyson, R. (2015). *Vocational Bildung in action* (Published licentiate thesis). Department of Education, Stockholm University, Stockholm, Sweden.

UNESCO. (2005). *Towards a convergence of knowledge acquisition and skills development.* Paris: UNESCO.

Winch, C. (2012). *Dimensions of expertise: A conceptual exploration of vocational knowledge.* London: Continuum.

An overview of progress in Inter–Professional Simulation Education in the Medical and Health Sciences

Harry Cephas Charsmar[*]

Abstract: Simulation education in the medical/health sciences has increased tremendously over the years. Some of the reasons for this increase are advances in technology and new health services innovations being adopted and implemented in the medical/health care and services system. These changes have also prompted the need for inter–professional simulation education within the medical/health sciences. With the introduction of inter–professional simulation education into training programmes, medical/health sciences education has been and continues to be reformed, hence new curricular introduced. Along with these trends of development come researches that have generated huge literature and knowledge. This overview builds on previous reviews to synthesise knowledge that have been produced over the years in order to present the progress being made as well as the challenges that need to be tackled in inter–professional simulation education.

Keywords: Inter–professional, Simulation education, Teaching, Training, Learning, Medical/Health sciences, Patient safety

* Correspondence: cheerfuly@zoho.com

1. INTRODUCTION

Simulation education in the medical/health sciences is on the increase as new innovations and technologies are adopted and implemented in the health care and services system. The need for inter–professional simulation education, training and practice in medical/health sciences came to the fore due to the continues changes in medical practice and the means through which medical/health care and services are currently provided (Issenberg 2006). Simulation involves the manner and technique of trying to reproduce the behaviour of a given situation or process in areas and fields like, e.g. military, aviation mechanical, medicine etc. by using similar situation or apparatus in order to study, train and learn (See Hammond 2004, Bradley 2006). Historically, simulation education in the medical/health sciences could be traced back to the late 1950s in the UK when Mrs ChaseTM was introduced to teach physical assessment to nursing students (Wilford & Doyle 2006) and in the 1960s when the Cardiology patient simulator, Harvey, was developed at the University of Miami in the USA (Aggarwal et al. 2010). Advances in technology in recent years have made available affordable equipments and technologies that permit simulating events with good fidelity to allow learners to experience training in a realistic manner (Bradley 2006).

In the medical/health sciences, Inter–professional education, training and learning is deemed to be taking place when professionals from the various areas of the field are trained together to work as a team (WHO 2010, Palaganas et al. 2016). The WHO proposes that interprofessional practice is vital to safe, high quality, accessible and patient centred health care. Inter–professional practice is the working together of health professional from specific health professions with patients, families, caregivers and

communities to deliver the highest quality of health care and services (WHO 2010). Inter–professional education thus requires comprehensive teaching methods to attain the proposed practice. Simulation as a teaching method as well as a tool for education, training and learning and assessment affords comprehensive means that lectures normally cannot provide. Studies have also shown that simulation teaching in the medical/health sciences education enhances certain types of learning better compare to the formal means of education within the field (Jensen 2013, See et al. 2016). Simulation education within the medical/health sciences covers almost all areas of medical care and health services provided to a given community. This vast area can be structured into arrays of professions, fields, issues and methods. Given the volume of this overview, only a few aspects could be covered and the focus is towards inter–professional simulation education. The purpose of this overview is to synthesise knowledge that have been produced over the years in order to present the progress being made in inter–professional simulation education.

2. TRENDS AND DEVELOPMENT
2.1 DEVELOPMENT OF SIMULATION EDUCATION OVER TIME

Medical education reforms significantly started to occur from the 1990s in countries like the UK partly due to skill insufficiency of new doctors as well as new means and methods of health care provision and delivery of services, which directly affects undergraduates' clinical and learning experiences. For postgraduates, time restriction for training in order to gain direct clinical experience raised concerns leading to finding solutions for sufficient clinical training. To fill this gap and meet the need for under-

graduate and graduate training, simulation education and training was adapted (Hammond 2004, Bradley 2006, Gough et al. 2012, Palaganas et al. 2016). In the early decades the discourses of simulation education, training and practice within the field have been mostly description of processes by association and organizations, and to some degree presentation of programmes and conference reports (see e.g. SSH & NLH Symposium USA, 2013, Council of Deans of Nursing and Midwifery (CDNM) Australia and New Zealand in Brown et al. 2012).

Table 1. Key concepts

Simulation–based education (SBE)
Inter–professional Education (IPE)
Simulation enhanced IPE (Sim–IPE)
Inter–professional collaboration
Briefing
Scenario
Debriefing
High–fidelity
Low–fidelity
Part–task or Skill trainer/s
Computer–based simulation
    Virtual reality (VR)
    Virtual patient (VP)
    Haptic system/s
Simulated patient (SP) or
Standardised patient (SP)
Integrated simulator/s
Confederate
Embedded participant
In situ (Clinical environment)
Modality

*   Note: Regarding definition of these concepts see e.g. Healthcare simulation dictionary (SSH 2016).

The scientific literature on inter–professional simulation education and undergraduate training during the early stages, have been more about curriculum preparation, evaluation of courses, learners' perspective and attitudes and teamwork outcomes (Bradley 2006, Cook et al 2011, Gough et al. 2012, Engum & Jeffries 2012, Alinier et al 2014). However progress has been made from description and presentation of programmes to more research. A recent review notes that there have been high increase in the number of publications in the last decade and most of the publications are from the last 5 years (Palaganas et al 2016). This development has helped to generate evidence, create awareness and identify problems as well as what works in order to progress with inter–professional simulation education and training at all levels; undergraduate, graduate, post–graduate, faculty as well as professional. As a result, many concepts have also been generated (see table 1 for Key concepts). There are however, geographical disparities in this trend of development in research. Most of the researches are conducted in North America and certain parts of Europe, a few from Australia and New Zealand and very little from the rest of the world.

Associations, most of them national, have developed or are developing guidelines and accreditation for qualification and certification. Universities and colleges are reforming curricular within the field of medical/health sciences to accommodate or integrate simulation teaching and learning (see Goldsworthy 2012, Tofil et al. 2014, CASN 2015, Nicka et al 2015, SSH 2016, Turrentine et al. 2016). However, the question remains if simulation education will focus on assessment beyond knowledge acquisition and rather assess practical proficiency. In other words, assessing learning that is transferable into practice, analy-

sis and evaluation. This is vital for the progress and prospect of inter–professional simulation education teaching, training and learning, if patient safety, one of the drivers of inter-professional simulation education should be achieved.

2.2 SIMULATION EDUCATION ACCEPTANCE AND RESISTANCE

The changing demand for medical and health care provision has led to new curricular in the medical/health sciences that call for methods of education other than the traditional lecture and the old apprenticeship mode of education (Brashers et al. 2016, Palaganas 2016). Within the research world, a review of the Society for Simulation in Healthcare identified five categories of attitudes towards simulation education. Innovators: 2.5%, those who take risk make time and effort to try new things. These are individuals like Gaba, Gorden, Gravenstein and others. Early Adopters: 13.5%, these are respected group of leaders, many of who were/are leaders in the Society for Simulation in Healthcare and the editorial board for Simulation in Healthcare. Early Majority: 34%, these form the group that play it safe and are careful, not prepared to add resources and time until evidence is demonstrated. Late Majority: 34%, this group forms the suspicious and the resistance movement and are difficult to change, though they may "came over" in the end. Laggards: 16%, this is the group that is fixed and steady in resisting change and pressure from above is mostly needed to bring change in their attitudes (Issenberg 2006). This divide could be seen at national levels as well as specific areas within the field.

The National Council of State Board of Nursing (NCSBN) in the USA views simulation teaching/training in nursing

education as very important whereas the National League for Nursing (NLN) in the USA works on nationwide, multi-state and multi-method use of simulation in nurse education (Rush et al. 2010). In Canada, the Association of Schools of Nursing (CASN) made an inventory of simulation learning use for health care professionals and explored the evidence, cost effectiveness and possibilities for multi-professional collaboration. They conclude that the advantages are: safe environment for both patients and students during training in high-risk procedures, unlimited exposure to complicated clinical events that are seldom, possibility of manipulating training opportunities instead of waiting for the situation to arise, provision of direct feedback, evaluation of performance and the possibility to organise team-training (CASN 2007). A study observed that in UK for example, there is a return to clinical focus in the medical/health sciences education (Davies et al. 2012). The government in the United Kingdom has also promoted "common Learning" also (known as pre-registration) to be embedded within undergraduate professional education for all health and social care professions (Gough et al. 2012). The Nursing and Midwifery Council (NMC) in the UK runs a Simulation Practice Learning project that partners with some Universities in the country (Rush et al. 2010). Inter-professional simulation education has gained recognition by key national players such as the General Medical Council in the UK, the Royal College of Physicians and Surgeons of Canada and the Council for Graduate Medical Education (ACGME) in the USA (Aggarwal et al. 2010), the American Association of Pharmacy (AACP) and Accreditation Council for Pharmacy Education (ACPE) (Ragucci et al. 2016).

Nonetheless, there are some concerns, hence resistance to embracing simulation as a sufficient mode of education especially in some specific professions within the medical/health sciences (Shanahan & Lewis 2015). The national organization of Nurse Practitioner Faculties (NONPF) in the USA, for example, does not accept simulation training hours as part of the 500 clinical training hours under direct supervision required for qualification (Rutherford-Hemming et al. 2016). The reason for not allowing simulation training hours as part of the required clinical hours is, according to the NONPF: lack of evidence and the learning outcomes of nurse practitioner education (ibid). The authors however note that there are conflicting recommendations within the academia. The American Association of colleges of Nursing (AACN), the accrediting board for nursing practitioners considers simulation training as "... an adjunct to the learning will occur with direct human interface or human experience learning" (Rutherford-Hemming et al. 2016). Adding to the conflicting recommendation is the use of simulation training in nursing education in the USA. A survey conducted in 2011among nursing education programme directors revealed that simulation is used as a teaching method in acute paediatric nurse practitioner programmes and 85% use simulation in their primary care paediatric programmes (Hawkins-Walsh et al. 2011). Some of the reasons leading to the use of simulation in nurse practitioner programmes are: increase competition for preceptor sites, possible provision and evaluation of equal clinical experiences of all students and the chance for all students to practice with low frequency of high-risk events (Rutherford-Hemming et al. 2016).

2.3 SIMULATION EDUCATION AND LEARNING IN THE MEDICAL/HEALTH SCIENCES

Simulation teaching, training and learning pedagogically entails three phases. The first phase is briefing and this entails informing all participants i.e. instructors and learners and presenting the scenario to be simulated. Background information, vital signs, instructions or guidelines are provided during this phase (SSH 2016). The second is the scenario section or the simulation event where learners and instructors work through the scenario (see Zigmont et al. 2011). The third is debriefing and this entails assessing the simulation event by the entire team i.e. learners and instructors and it is a process through description analogy and applications (see Fanning and Gaba 2007). The scenario being simulated may involve mannequin/simulators or could be a role play. There are various types of simulators for different training and learning needs and they can be categorised as: Part-Task Trainers: these models are normally part of the body e.g. limb and they are meant to aid acquisition of technical procedures i.e. psychomotor skills (Bradley 2006). Computer Based Systems: there are varieties of these systems such as Multimedia programmes which incorporates audio and video and are normally used in addition to formal teaching and learning; Interactive systems, these have an interface that gives the learner the possibilities of pharmacological and physiological reality. Virtual reality and haptic systems, these two systems are usually combined with some form of part-task trainer and they are used in vascular training, endoscopy and laparoscopic surgical techniques (Ibid). Simulated Patient/s: this may be a professional/s trained to present a health status in a credibly reliable manner.

Integrated Simulator/s: these combine mannequin with sophisticated computer controls and they can provide physiological outputs such as pulse rate and respiratory movements (Ibid). In addition to the simulators, the environment in which the simulation takes place is very important (Fanning & Gaba 2007). A realistic environment is said to increase the manner in which learners engage in the simulation and in turn enhance debriefing. However, in team training, a clinical environment (in situ) serves better in providing individuals and teams real experience to reflect upon (Bradley 2006, see also Nyström et al. 2016, Escher et al. 2017).

2.4 SIMULATION TECHNOLOGY, TECHNIQUE AND LEARNING

As stated above, advances in technology and technique have provided relatively ample fidelity for learners through simulation in the medical/health sciences. There are, however, many emphases on stressing that simulation is not a technology but rather technique in the education literature (Gaba 2004, Davies et al. 2012). Nonetheless, the technology dimension of simulation is indispensable especially in the medical/health sciences education. In a narrative review, tracing the history of simulation education, Bradley (2006) placed learning through technology in the centre of a model indicating what drives simulation. Accordingly, technology enables learning through simulation. When advanced technology is employed, i.e. high-fidelity simulation for example, repetitive practice and a range of difficulties and challenges in training are attained, hence adaptability leading to multiple learning strategies (Bradley 2006). As Aggarwal et al.

(2010) note, current development in high-fidelity virtual reality simulation has augmented the role of simulation training in medical education in areas such as laparoscopy, endoscopy and endovascular surgery.

Therefore, it is rather expedient to emphasize Dual simulation learning processes given that the process produces dual learning possibilities. Dual learning could occur in the medical/health sciences inter-professional training sessions where simulators are employed. For example, when, an inter-professional team or a profession train and practice with high-fidelity advanced technology simulator/s or mannequin, members of the team learn through the use of the simulator (see e.g. Medley & Horne 2005, for anaesthesia education, Jensen et al. 2013 for coronary angiography). This aspect is the mastering of technology and the techniques that goes with it, hence the practice, which allows each member of the team to rehearse until high levels of confidence is attained. The other aspect is that the simulation scenario provides nontechnical skills (Yee et al. 2005) i.e. teamwork experience such as understanding the roles and responsibilities of other member of the team, specific defined roles, boundaries, boundary-crossing, communication; the possibility to discuss and therefore avoiding unspoken assumptions and expectations from other team members across discipline etc. AS such, the learning that is taking place when advanced technology mannequin is part of the simulation process is dual. In this case, it is both technology and technique that produce the learning outcome. It is vital therefore not to underestimate the role and place of technology in simulation training and teaching. Dual learning experience could also be expressed as learning technical and nontechnical skills in inter-professional simula-

tion education. This dual learning could be understood from the theory of Bloom's (1956) taxonomy of educational objectives in three domains as cognitive knowledge, psychomotor skills and attitudinal.

2.5 INTER-PROFESSIONAL SIMULATION EDUCATION BENEFITS AND CHALLENGES

Table 2. Key benefits of inter-professional simulation education

Key benefits of inter-professional simulation education
· Improve patient safety
· Training and practicing without patient risk
· Practicing in a structured and safe environment without fear
· Team training
· Teamwork
· The possibility of training until proficiency and confidence is reached
· Learning transfer from training to clinical environment
· Develop new curriculum
· Develop and improve instrument for assessing learning
· Developing nontechnical skills
  - Inter-professional collaboration
  - Communication
  - Understanding of professional boundaries
  - Boundary-crossing
  - Management
  - Decision-making
  - Problem-solving (shared)

As many other kinds of education, inter-professional simulation education has benefits and challenges (see tables 2 and 3 for key benefits and challenges). Current provision of health care and

services bear challenges that demands health professionals to collaboratively work as a team. Collaboration has become very important for the delivery of effective and safe health care and services (Smithburger et al. 2013, Kaba et al. 2016). Inter-professional practice and collaboration takes place whenever professionals of respective profession within a field or different fields work together as a term (WHO 2010, Feltham 2016). One of the major challenges when professionals from various professions work together in a team is communication. This involves understanding the intensions, routings and procedures of the other professionals in the team. In the medical and health care delivery system, poor communication, whether through one profession or various professions working as a team, most of the time ends up with detrimental consequences for patients (King 2016). It is estimated that poor communication resulting in errors that could be prevented among health professionals in the USA amounts to 98,000 deaths per year, costing about $ 17 billion (Engum & Jeffries 2012). These challenges thus call for inter-professional education and training.

Notwithstanding these challenges, medical/health sciences education is still provided separately for the various health professions (Stefanidis et al. 2015, Kaba et al. 2016). Inter-professional education and training is one of the fulcrum of safe and quality health care and services provision (WHO 2010, Smithburger et al. 2013). Simulation education offers perhaps the best method of inter-profession education and training for the medical/health sciences students and professionals. However, simulation as a teaching and training method seems to be used more within some specifics professions in the medical/health sciences e.g. nursing and pharmacy (Smithburger et al. 2013).

Simulation education in general aims at teaching professionals to master their professions. When simulation is applied in inter-professional education in the medical/health science, it further helps to deal with salient issues namely: boundaries and boundary-crossing, communication and understanding of the function of the team (Murphy & Nimmagadda 2015). Regarding simulation and inter-professional education and understanding of other professions, a review by Gough et al. (2012) observed that studies reveal that a well prepared scenario and debriefing can aid smoothen the progress of understanding individual professionals included in the scenario and hence reflect on their own and others' professional roles.

Table 3. Key Challenges

Key Challenges
· Cost
· Technology
· Evaluating cost effectiveness
· Developing scenario that benefits all professions in the team
· Faculty's time
· Faculty's lack of simulation knowledge and experience in technology
· Faculty's different priorities
· Student/faculty ratio
· Coordinating and scheduling teams
· Integrating inter-professional simulation education curriculum into programmes
· Making learning engaging and relevant for all

High-fidelity simulation, an aspect that is on the increase within this field has shown to be an effective training and learning mode that enhances team work, management of complex sit-

uations, learning new skills, active learning based on individualised needs, providing a safe educationally supportive learning environment and simulation validity as a realistic recreation of complex clinical situations (Bradley 2006, Aggawal et al. 2010, Luctkar-Flude et al. 2010, Brown et al. 2015, Feltham et al 2016). However, low-fidelity simulation is equally important for learning. Low-fidelity might for example be more viable when setting up a scenario for beginners. As discussed below under theory, cognitive load theory and situation learning are both supportive of employing a fidelity that is at the level of learners and meets the simulation task requirement (see also Bradley 2006, Reedy 2015). It is important therefore not to consider simulation education in terms of high-fidelity and low-fidelity as inter-professional and simulation education progress. Studies have shown that both low and high fidelity enhance learning (Palaganas et al. 2016, Ragucci et al. 2016). The blending of the learners in the team from the various professions is very vital to learning enhancement. For example, when forming a team of medical, nursing and pharmacy students, it is important to find the right level of education from each profession (see Shanahan & Lewis 2015, Turrentine et al. 2016, Pitout et al. 2016, Reime et al. 2017). A failure to find the right combination may result in some of the professions in the team learning but not the others (see Stefanidis et al 2015).

Inter-professional simulation education has two core teaching, training and learning orientations: the technical skill and the nontechnical skills. The technical skills training involves mastering of the technique and technology of the equipments/ simulators or mannequin employed in treating patients (Issenberg et al. 1999). The nontechnical skills involve communica-

tion, teamwork, management etc. Simulation has proved to be an effective method for teaching and training in nontechnical skills. Simulation training also helps to develop skills such as critical thinking, problem-solving collaboration and decision-making (Reime et al. 2017). These nontechnical skills are equally very vital for maintaining patient safety.

3. FINDINGS AND PROGRESS

3.1 THEORIES FOR SIMULATION AND INTER-PROFESSIONAL EDUCATION

In the literature of simulation education in health, application of theory is seldom seen. As previous researches (Bradley & Postlethwaite 2003, Bligh & Bleakley 2006, Bradley 2006, Kaakinen & Arwood 2009, Reedy 2015) have observed, theoretical foundations or application are missing in most simulation researches in the medical/health sciences. However, inter-professional and simulation education research in the medical/health sciences has the potential to befit from established theories in education and the social sciences. Some relevant theories are: Behaviouralism, Constructivism, Social constructivism, Reflective practice, Situated leaning, Activity theory, Experiential learning theory and Cognitive load theory (Bradley 2006, Reedy 2015, Abelsson 2017). These different theories can be applied to an entire research as well as be focus on various parts of simulation teaching and learning research.

Cognitive load theory for example, aims at finding the balance for the learning level of the learner/s, hence this theory is useful in designing a scenario that is at the level of learners. Thus, for example, when preparing a simulation session for learners in

their early stages in the learning process, this should be done in an environment with reasonably low-fidelity in order to minimised irrelevant influence (Reedy 2015). A work on behaviouralism is on feedback, i.e. how closely the learner's response is along the lines of the ideal response (Bradley & Postlethwaite 2003). This theory could be useful in the aspects of the learning process that demands memorizing. Constructivism has the key element of assimilation and accommodation. Assimilation is about the learner gaining a better understanding of an idea after experiencing wide range of examples and begins to appreciate the idea. Accommodation is about expanding, modifying and sophistication of the structure of learners' concepts. An important aspect of constructivism is safe learning environment and this is salient in simulation situations where injury of patients is to be avoided (Ibid). Social constructivism focuses on the social context of learning and social interaction rather than individual learning. Problem-solving behaviour and problem based learning are important features of social constructivism and has very useful application for inter-professional simulation training (Ibid). Reflective practice, stresses on aiding the learner to plan, evaluate and re-conceptualise. This is useful in simulation situations where theories that are relevant for the scenario may come from different fields. During re-conceptualization, new theories can be generated and this may lead to changing some aspects of the context (Ibid).

Situated learning is about gradual entry of the learner to participate in the learning process, starting from the periphery of the things to be practiced. Putting simulation in the context of peripheral participation, learners are empowered to get started gradually and become more and more engaged. It also helps

learners to navigate through the various opinions and practices of instructors and leaders and finally allows for the informal chance of learning, i.e. apprentices learning well in the company of other apprentices (Ibid). Activity theory plays the emphasis on learning within and across limits of the various activity systems. Each activity system ought to be seen as a whole and consists of individuals and group actions on an object or a subject. Orientation and objective actions of activities are the social setting of the activity system. Activity theory could be useful when preparing the scenario, to carefully give consideration to how meaning could move from one activity to the other and the kind of reconstruction the learners need in order to respond to the various aspects of the scenario (Ibid). Experiential learning theory is based on the process of having experience; (Concrete experience), reflecting on that experience; (Reflective observation), developing abstract models; (Abstract conceptualization) testing mental models; (Active experimentation). Experiential learning theory is very useful in the debriefing part of the simulation event (Zigmont et al. 2011). In simulation learning, experience gained during the simulation event prepares the way for learning. As explained, the actual learning takes place during debriefing (see Fanning & Gaba 2007 for debriefing, Palaganas et al. 2016). Mental models that steer behaviour are developed in the process making possible analogical thinking (Zigmont et al. 2011). Theories are thus, very essential to simulation and inter-professional education research and the researches that lay the theoretical foundation for their studies add more credibility to the evidence presented.

3.2 DRIVERS AND HINDRANCES OF INTER-PROFESSIONAL SIMULATION EDUCATION

In the literature, a common theme that necessitates inter-professional education within the health sector, hence, the medical/health science education is patient safety (WHO 2010, Luctkar-Flude et al. 2010, Engum & Jeffries 2012, Gough et al. 2012, Watters et al. 2014). Tracing the history of simulation in medical education, Bradley (2006) identified three major themes and series of factors as the drivers for learning through simulation. The three major themes are: societal expectation, political accountability and professional regulation. Societal expectation and political accountability have one major factor in common, namely, failure of traditional teaching and learning modes. This implies that the ways and means through which teaching has been and still is conducted in many areas and the manner of learning are unable to provide adequate practical proficiency for medical and health science students and trainees to confidently enter their respective professions and resume working independently (Bradley 2006). Two other factors that drive societal expectation are: changing clinical experience and the short time being allocated to training, whereas clinical governance and patient safety drive political accountability. Professional regulation is propelled by the factors: working time restriction, team-base learning and inter-professional learning. All these factors can be seen as part of the solid foundation for inter-professional and simulation education and practice in the medical/health sciences as well as within the health sector.

Inter-professional practice within the health sector is on the increase hence the need for education that meets this approach of medical and health care provision. In the academia, employ-

ing simulation as a mode of teaching at the undergraduate level remains new (Gough et al. 2012). At advance and specialised levels within medical and nursing education a vast increase in the application of simulation education internationally is being witnessed (ibid). Various organizations and institutions are leading the path in promoting inter-professional practice, which is a new approach of providing medical/health care and services due to the benefits such as; patient safety, minimise error, efficient and improved communication that comes with it (Watters et al. 2014, see SSH 2016 for organizations). Simulation education literature in the medical/health sciences has grown astronomically since the 2000s and the trend continues. Nonetheless, sufficient proofs that encourage evidence based promotion of simulation education in this filed seem to be lacking due to research data and types of research (Bradley 2006, Zhang et al. 2011). In a recent review, the authors seem to perceive this problem still persisting. As they state, "the quality and rigour of the existing literature is inadequate to confidently determine factors that affect learning through simulation enhanced IPE" (Palaganas et. al 2016). As already mentioned earlier, in the beginning most of the research or literature on simulation and inter-professional education in this field have been reports rather than evidence based research.

Even though there have been changes in the last decade whereby research has increase, the types of research, research quality and sufficient data for drawing conclusions that could be generalised need to be improved. While some studies have shown evidence that simulation training and practice could transform stereotypical perceptions of the professions within the medical/health sciences (King et al. 2013, Liaw et al. 2014),

there remains the need for more evidence based research so as to facilitate the progress of inter-professional simulation education within the medical/health sciences (Bradley 2006, Palaganas et. al 2016).

3.3 POSSIBLE FUTURE OF INTER-PROFESSIONAL AND SIMULATION EDUCATION

The tremendous increase of publications within the field is an indication that inter-professional and simulation education has expended unabated since the 1990s and the current trend shows furtherance of this development. Besides the increase in publications, the number of associations and accreditation boards has also increased. A list of possible future direction and broadening of simulation education was suggested in 2006 by Bradley figure 1.

Figure 1. Representation of the future broadening base of learning through simulation

- Coalescence of movement
- Multiple disciplines use routinely
- Interaprofessional Learning
- Undergrad, postgrad and continuing medical education
- Team-based learning
- Full range of simulation continuum used
- Technological advances to combine whole body manikins, virtual reality and computer-based physiological modelling
- Revalidation and reaccrediation

2000   2010   2020

Adopted from (Bradley 2006)

The current research literature demonstrates that all the points suggested are being practiced and improved upon within various institutions and accreditation boards. Currently, there are various coalescences of moment on every continent of the world. The Society for Simulation in Healthcare (SSH) alone acknowledged the following as contributors:

Association for Simulated Practice in Healthcare (ASPiH) • Association for Standardized Patient Educators (ASPE) • Australian Society for Simulation in Healthcare (ASSH) • Brasilian Association for Simulation in Health (Abrassim) • Canadian Network for Simulation in Healthcare (CNSH) • Dutch Society for Simulation in Healthcare (DSSH) • International Nursing Association for Clinical Simulation in Learning (INACSL) • International Pediatric Simulation Society (IPSS) • Japan Society for Instructional Systems in Healthcare (JSISH) • Korean Society for Simulation in Healthcare (KoSSH) • Latin American Association for Clinical Simulation (ALASIC) • New Zealand Association for Simulation in Healthcare (NZASH) • Pan Asia Society for Simulation in Healthcare (PASSH) • Polish Society of Medical Simulation (PSMS) • Portuguese Society for Simulation (SPSim) • Russian Society for Simulation Education in Medicine (ROSOMED) • Society in Europe for Simulation Applied to Medicine (SESAM) • Spanish Society of Clinical Simulation and Patient Safety (SESSEP) (From SSH 2016).

The SSH currently provides accreditations and certificates to promote simulation in health care globally. Certified Health Simulation Educator (CHSE), Certified Health Simulation

Educator Advance (CHSE-A) and Certified Health Simulation Operation Specialist (CHSOS) are some of the accreditations (see SSH 2016, simulation resources). Researches reviewed for this work have variously conducted studies on all the other points on the list. Thus, inter-professional simulation education in the medical/health sciences has progressed and continues to develop. However, as the progress continues, hindrances, such as research rigour, data quality and research method that mitigate the progress need to be addressed.

4. CONCLUDING REMARKS

Advancements in technology and new techniques as well as the need to improve patience safety have and continue to transform how medical and health care services are provided. This has led to new expectations hence demands from society that generates political accountability and professional regulations. Patient safety has been one of the main drivers of the expectation and demand. The transformation has led to new modes of teaching training and learning as well as working in medical care and health services, for this reason, curricular reforms in the medical/health sciences education continues. Further, the transformation has also propelled faculties and professionals into life-long learning in that they need to learn and master new technologies and techniques to keep abreast with the expectations and demands for much safer medical and health care provisions. Life-long learning is currently discernible from some of the articles in the form of Inter-professional simulation training and Inter-professional teamwork for professionals in the field.

Research quality, data and rigour are some of the issues that seem to persist in the literature. It appears however that some

improvements are being made and the trend of improvements continues. Regarding data, one of the main issues is sample size; however, this could be overcome through collaboration. That is, research groups working together in order to generate ample sample size date. As some studies note and also observed during this overview, theories are scarcely employed in Inter-professional and simulation education research within this field. Application of theories thus needs to be increased in order to solidify evidence based researches. Evaluation of inter-professional education programmes and how to incorporate the experiences into curriculum are some of the challenges as the field progresses and develops. Thus, to evaluate learning through simulation, the focus and attention should be placed on learning that is transferable to clinical practice. This way, clear learning objectives can be set and as a result, generating reasonable means of incorporating simulation learning experiences into curricular.

Though the literature on inter-professional simulation education is growing rapidly, the evidence being produced in the literature is still limited. In 2006, Bradley concluded that more evidence is needed for promoting simulation based education. A decade later in 2016, Palaganas et al. arrived at a similar conclusion stating that the quality and rigour of the current literature is inadequate for determining factors that affect learning through simulation. Insufficient evidence has been and continues to be the main argument of those reluctant to fully embrace simulation training and teaching in the medical/health science education. The factors generating insufficient evidence as discussed above are: data types and size, research rigour and application of theories. Thus, to strengthen evidence, futures researches need to apply sound theory or theories, improve research rigour and data quality.

Geographical discrepancies are apparent in the researches being produced. A rather large proportions of the researches produced currently are from North America, some parts of Europe, Australia and New Zealand. There is therefore the need for research from other parts of the world. Researches from other parts of the world are also important for enhancing evidence and as such encouraging those who are reluctant to fully embrace simulation as a teaching, training and learning method. In addition, this would also strengthen inter-professional simulation education globally.

One interesting aspect that this overview illuminates is that the attitude towards simulation acceptance and resistance within the research community is similar among educators and the education community. Even so, inter-professional and simulation education has made progress. The progress is obvious from curricular reforms and the means by which universities and colleges are providing medical and health sciences education and training. It is comprehensible from the current literature reviewed for this overview that the progress is being sustained by educational institution as well as medical and health associations. The associations are promoting accreditations, conferences and informal education whereas the universities and colleges are developing and integrating curricular into programmes, building upon and improving existing knowledge through research.

REFERENCES

Abelsson, A. (2017) Learning through simulation. *Disaster and Medicine Journal,* 2:3 125–128

Alinier G. Harwood C. Harwood P. et al (2014) Immersive clinical simulation in undergraduate health care interprofessional education knowledge and perceptions Clinical. *Simulation in Nursing*, 10(4) e205–e216

Aggarwal, R. Mytton, O.T. et al. (2010) Training and simulation for patient safety. *Qual Saf Health Care*, 19(Suppl 2):i34– i43 (http://qualitysafety. bmj.com)

Bligh, J. Bleakley, A. (2006) Distributing menus to hungry learners: Can learning by simulation becomes simulation by learning? *Medical Teacher*, 28:7, 606–603

Brashers, V. Erickson, J.M. et al. (2016) Measuring the impact of clinically relevant interprofessional education on undergraduate medical and nursing student competencies: A longitudinal mixed methods approach. *Journal of Interprofessional Care*, 30:4, 448–457

Bradley, P. (2006) The history of simulation in medical education and possible future directions. *Medical Education*, 40:254–262

Bradley P. Postlethwaite, K. 2003). Simulation in clinical learning. *Medical Education*, 37(s1) 1–5

Brown, C.W. Howard, M. Morse, J. (2016) The use of trauma interprofessional simulated education (TIPSE) to enhance role awareness in the emergency department setting. *Journal of Interprofessional Care*, 30:3, 388–390

Brown, R. A. Guinea, S. et al. (2012) Clinical simulation in Australia and New Zealand Through the lens of advisory group *Collegian*, 19:177–186

Canadian Association of Schools of Nursing (CASN) (2007) Project 3: Inventory of the Use of Simulated Clinical Learning experiences and Evaluation of their Effectiveness. Vancouver: CASN/ACESI

Canadian Association of Schools of Nursing (CASN) (2015) Practice domain for baccalaureate nursing education: Guidelines for Clinical placement and Simulation. Ottawa CASN/ACESI

Cook, D. A. Hatala, R. Brydges, R. et al. 2011 Technology-enhanced simulation for health professions education: A systematic review and meta-analysis *JAMA*, 7 306(9) 978–988

Davies, J. Martina Nathan, M. Clarke, D. (2012) An evaluation of a complex simulated scenario with final year undergraduate children's nursing students. *Collegian*, 19:131–138

Engum, S. A. Jeffries, P. R. (2012) Interdisciplinary collisions: Bringing healthcare professionals together. *Collegian*, 19, 145–151

Escher, C. Rystedt, H. Creutzfeldt, J. et al. (2017) Method matters: impact of in-scenario instruction on simulation-based teamwork training. *BMC Advances in simulation*, 2:25

Fanning, M.R. Gaba M. (2007) The role of debriefing in simulation-based learning. *Simulation in Healthcare*, 2 (2)

Feltham, C. Foster, J. et al. (2016) Student midwives and paramedic students' experiences of shared learning in pre-hospital childbirth. *Nurse Education Today*, 41:73–78

Gaba, D. M. (2004). The future vision of simulation in health care. *Qual Saf Health Care*, 13(Suppl. 1): i2–i10.

Goldsworthy, S. (2012) High fidelity simulation in critical care: A Canadian perspective. *Collegian*, 19:139–143

Gough, S. Hellaby, M. et al. (2012) A review of undergraduate interprofessional simulation-based education (IPSE). *Collegian*, 19:153–170

Hammond, J. (2004) Simulation in critical care and trauma education and training. *Curr Opin Crit Care*, 10:325–329.

Hawkins-Walsh, E. Berg, M. et al. (2011) A national survey of the primary and acute care pediatric nurse practitioner educational preparation. *J. Pediatr. Health Care* 25 (1), 5–15.

Issenberg, S.B. McGaghie, W.C. et al. (1999) Simulation technology for health care professional skills training and assessment. *JAMA*, 282:861–866

Issenberg, S.B (2006) The Scope of simulation-based healthcare education. *Simul Healthcare* 1: 203–208

Jensen, U. (2013) The role of simulation training for skills acquisition in coronary angiography. *Karolinska Institutet* (Thesis)

Jensen, U. Jensen J. Olivecrona G. et al (2013) Technical skills assessment in a coronary angiography simulator for construct validation *Simulation in Healthcare* 8(5), 324–328

Kaakinen, J. Arwood, E. (2009) Systematic review of nursing simulation literature for use of learning theory. *International Journal of nursing Education Scholarship* 6(1)

Kaba, A. Beran, T.N. (2016) Impact of peer pressure on accuracy of reporting vital signs: An interprofessional comparison between nursing and medical students. *Journal of Interprofessional Care*, 30:1, 116–122

King, A.E.A. Conrad, M. Ahmed, R.A. (2013) Improving collaboration among medical, nursing and respiratory therapy students through interprofessional simulation. *Journal of Interprofessional Care*, 27: 269–271

King, J. Beanlands, S. et al. (2016) Using interprofessional simulation to improve collaborative competences for nursing, physiotherapy, and respiratory therapy students. *Journal of Interprofessional Care*, 30:5, 599–605

Liaw, S.Y. Siau, C. et al. (2014) Interprofessional simulation-based education program: A promising approach for changing stereotypes and improving attitudes toward nurse–physician collaboration. *Applied Nursing Research*, 27 258–260

Luctkar-Flude, M. Baker, C. et al. (2010) Evaluating an undergraduate interprofessional simulation-based educational module: communication, teamwork,

and confidence performing cardiac resuscitation skills. *Advances in Medical Education and Practice*, 1: 59–66

Medley, C.F. Horne, C. (2005) Using Simulation Technology for Undergraduate Nursing Education. *EDUCATIONAL INNOVATIONS*, 44:1

Murphy, J.I. Nimmagadda, J. (2015) Partnering to provide simulated learning to address Interprofessional Education Collaborative core competencies. *J Interprof Care*, 29(3): 258–259

Nicksa, G.A. Anderson, A. (2015) Innovative Approach Using Interprofessional Simulation to Educate Surgical Residents in Technical and Nontechnical Skills in High-Risk Clinical Scenarios *JAMA* Surg.150(3):201–207

Nyström, S. Dahlberg, J. et al. (2016) A sociomaterial perspective in students' interprofessional collaboration. *Journal of Interprofessional Care*, 30:4, 441–117

Palaganas, J.C, Brunette, V, Winslow B. (2016) Prelicensure simulation-enhanced interprofessional education A critical review of the research literature *Sim Healthcare* 11:404–418

Pitout, H. Human, A. I. et al. (2016) Healthcare students' perceptions of a simulated interprofessional consultation in an outpatient clinic, *Innovations in Education and Teaching International*, 53:3, 338–348

Ragucci, K.R. Kern, D.H. Shrader, S.P. (2016) Evaluation of Interprofessional Team Disclosure of a Medical Error to a Simulated Patient. *American Journal of Pharmaceutical Education*, 80 (8) Article 138.

Reime, M.H. Johnsgaard, T. et al. (2017) Learning by viewing versus learning by doing: A comparative study of observer and participant experiences during an interprofessional simulation training. *Journal of Interprofessional Care*, 31:1, 51–58

Rutherford-Hemming, T. Nye, C.B. Coramc, C. (2016) Using simulation for clinical practice Hours in Nurse Practitioner Education in The United States: A Systematic review. *Nurse Education Today*, 37 128–135

See, K.W.M. Chui K.M. et al. (2016) Evidence for endovascular simulation training: A systematic review. *Eur J Vasc Endovac Surg*, 51: 441–451

Shanahan, C.A. Lewis, J. (2015) Perceptions of interprofessional clinical simulation among medical and nursing students: A pilot study, *Journal of Interprofessional Care*, 29:5, 504–506,

Smithburger, P.L. Kane-Gill, S.L. et al. (2013) Advancing interprofessional education through the use of high fidelity human patient simulators. *Pharmacy Practice*, 11(2), 61–65

Society for Simulation in Healthcare (SSH) (2016) Healthcare Simulation Dictionary.http://www.ssih.org/dictionary (https://www.ssih.org/Portals/48/Docs/Dictionary/simdictionary.pdf)

Stefanidis, D. Ingram, K.M. et al (2015) Are Nursing Students Appropriate Partners for the Interdisciplinary Training of Surgery Residents? *Journal of Surgical Education*

SSH & NLH (213) Interprofessional Education and Healthcare Simulation Symposium Report. IPE in Healthcare Simulation (www.nln.org/docs/default-source/professional-development-programs/white-paper-symposium-ipe-in-healthcare-simulation-2013-(pdf).pdf?sfvrsn=0)

Tofil, N. Morris, J.L. et al. (2014) Interprofessional Simulation Training Improves Knowledge and Teamwork in Nursing and Medical Students During Internal Medicine Clerkship. *Journal of Hospital Medicine*, 9:3

Turrentine, F.E. Rose, K.M. et al. (2016) Interprofessional training enhances collaboration between nursing and medical students: A pilot study. *Nurse Education Today*, 40 33–38

Watters, C. Reedy (2014) Does interprofessional simulation increase self-efficacy: a comparative study. *BMJ Open*, 2015;5:e005472. doi:10.1136/bmjopen-2014-005472

Wilford, A. Doyle T.J. (2006) Integrating simulation training into the nursing curriculum. *British Journal of Nursing* 15:11

World Health Organization (WHO), (2010) Framework for action on interprofessional education& collaborative practice. Geneva: *World Health Organization*. Retrieved December 22, 2016 from http://apps.who.int/iris/bitstream/10665/70185/1/WHO_HRH_HPN_10.3_eng.pdf

Yee, B. Naik, V.N. Joo, H.S. et al. (2005) Nontechnical Skills in Anesthesia Crisis Management with Repeated Exposure to Simulation Education. *Anesthesiology* 103:241–8

Zhang, C. Thompson, S. et al. (2011) A review of simulation-based interprofessional education. *Clinical Simulation in Nursing* 7(4), e117–e126. doi:10.1016/j.ecns.2010.02.008

Zigmont, J.J. Kappus, L. J. Sudikoff, S.N. (2011) Theoretical Foundations of Learning Through Simulation. *Semin Perinatol*, 35:47–51

Vocational Pedagogy in Cuba – New approaches to teaching-learning method in new scenarios

Juan Alberto Mena Lorenzo*, Lázaro Moreno Herrera, & Pedro Luis Yturria Montenegro

Abstract: For most companies, working teams play a crucial role in its success. It is therefore important that apprentices get integrated in the team. In this way, apprentices gain access to the shared knowledge and understanding of work-related practices, methods, challenges, and goals which is a base for individual learning and joint progress. Starting to work in a team means to learn about the explicit and implicit shared understanding of the team and adapt to it at the start. This is a demanding task, especially so in this case as the newcomers have little to no prior job-related knowledge and no experience in working in a team within a company. We will discuss the crucial role of the apprentices' social integration in a team as a mandatory condition to gain access to knowledge, social conventions and other resources. Positive social integration will partially depend on the apprentices' social skills and ability to reflect on the adjustment during organisational entry. The core issues discusses here are the result of empirical work in vocational institutions in Pinar del Rio province, Cuba.
Keywords: quality of VET, social processes, reflexivity, learning

* Corresponding author: juan.mena@upr.edu.cu

1. INTRODUCTION

The way in which human being learn is often studied from different positions in the social sciences. Learning continues to be one of the main categories of pedagogy, so "how to learn" is one of its major scientific problems also for vocational pedagogy in Cuba. In the current Cuban vocational training, this is a fundamental, complex and urgent issue. To train a competent professional, as required by society and its labor market, involves learning relevant vocational content, that is, knowledge, skills, abilities, values and attitudes.

Although, educational institutions continue to be essential for vocational training because of their organizational-educational role and the pedagogical knowledge based on experiences contained in them the fact is that it is not enough. There are different objective and subjective reasons that justify this claim. First, it is necessary to start from the economic conditions at present concerning availability of material resources. The material resources: machines, tools, inputs and technological equiments are necessary and essential but they are not always available in vocational training institutions even thought they might be available in companies.

On the other hand, the scientific-technical development is so accelerated that, given the case that there were economic resources to meet material demands, it would be very difficult to keep it updated. As a result, one of the traditional contradictions of the vocational pedagogical process continues to be evident, it is recognized that the vocational training institutions are behind the companies in matters of technological updating.

A second aspect is the human factor: teachers of vocational

training institutions. These professionals, essential mediators – together with the experts of the companies – of the vocational pedagogical process, are generally focused on the student and the area of knowledge they represent, viewed through the discipline or the subject. The third aspect is the fact that even when the vocational training institutions have the necessary material and human resources, they are not in contact with the day to day of the productive processes and / or services, with their specialists and workers, with the organization, execution and results of the aforesaid business working processes. A fourth aspect, just to analyze four factors, is the fact that although it is necessary to train a professional producer, it is more urgent that this worker be a conscious citizen and convinced of his necessary contribution to the society in which he lives, from his professional position, that is, "The world of work requires a vocational training institution that takes into account, in addition to scientific-professional capabilities, the total human being, with the development of all personal qualities, attitudes and aptitudes, possibilities and resources of intelligence , of sensitivity and physical nature "(Mena, 2008, p.26).

This completes the training process by giving it its educational essence. Vocational training institutions are consequently considered to be best prepared than the companies, despite their potential in terms of equipments. Companies, immersed in the complexity of productive processes, does not provide all the necessary human and material conditions to fully achieve an integral education of the professional, its professional and citizenship dimensions. All these elements are important when it comes to technical and vocational learning, since is not only about learning "to do", but also and very necessary to learn to

"be" and "be" (Mena, 2008). Consequently, under the current conditions of socio-economic development worldwide, it is very complex, even for the most complete and economically supported educational systems for work, to train professionals without the shared support of vocational training institutions and companies. Although, until now we have been advocators of the vocational pedagogical processes that are developed in vocational training institutions, we are more currently advocating strongly for learning processes that are developed in both contexts in a shared way.

2. THE INTERNALIZATION OF PROFESSIONAL CONTENT FROM A SHARED APPROACH PROFESSIONAL TRAINING INSTITUTIONS & COMPANIES

The contents of the profession are built individually and collectively in the learning process. For Vigostki (1989), learning represents the mechanism through which the subject appropriates (internalises) the contents and forms of culture that are transmitted in the interaction with other people. From these assumption, the process of interaction with "the others" should be essentially related to the future performance of the professional so that in the "other people", it is essential to include, from the initial training as active agents of change, the practicing professionals.

To assume these criteria, or such means that the formation of a professional, ready to face and to solve problems and professional situations, does not have nor can be analyzed from the same grounds than traditional pedagogical processes. It is not

enough to simulate or reproduce actions of reality in order to achieve this. Although the reproduction of the object of reality is necessary in the process, while "learning involves the transition from the external (objective) to the internal (subjective) from the interpsychological to the intrapsychological" (Vigostki, p. 133), the development and training of professionals is conditioned by real practice, in the production process and / or services of the company and in it, the confrontation and the solution of professional problems. Developing vocational knowledge demands going from concrete sensoperceptual levels to abstract or theoretical levels where the student builds his / her own subjectivity on the problem he / she is facing (object activity according to Leontiev) and, from this point on, go again to practical or concrete levels proposing solutions with particular individual touch.

In this process of socialization, mediated by teachers and instructors, by the conditions of the productive and / or service scenarios and by the communication process, the generalizations of the contents constructed individually by each student, consolidate the quality of the personal judgments. Constructed judgments acquire a higher level of generalization when both the solutions and the process in which they take place are evaluated by the teacher and the specialist from the individual perspectives of the students, completing the final judgments with the integration of collective perspectives. This special process of communication is only possible when the Teaching Learning Process (TLP) is carried out in conditions of production and services.

Although, in the TLP of vocational training, cooperation among its personal components is important, the direction of

teaching and learning has a high complexity. Our argument is that the determination of the didactic components and their interrelation in each learning situation, is conditioned by the scenarios in which the process is developed and its complexities. Thus, the integral formation of the students, although having the model of the established professional as its point of view, in practice depends on the socio-economic and socio-laboral conditions of its fundamental contexts: vocational training institutions and companies.

Undoubtly TLP in vocational training institutions, in its traditional teaching areas, e.g., laboratories, field areas, computer rooms and teaching workshops can and must be perfected, but its didactic-methodological essence is known; it exists in a way based on vocational pedagogy. However, how it is taught and how it is learned in the workshops and productive areas and services of companies is still a pending issue. For Lee Shulman, (2005), the content of the TLP of vocational training will be conditioned, to a large extent, by the socio-labor culture contained in the professional work of the companies. On this basis and in the didactic order, the organization of the TLP of the specialties and technical and professional careers in the context of the company, will be influenced by the socio-labor culture. This culture allows the student or apprentice, familiarization or early socialization, not only with the job and its professional problems, but also with the characteristics, customs and values of the branch, family or professional field in question. Any business scenario (carpentry, computer room, clinic, laboratory, mechanical workshop, kitchen, beauty salon, field area, among many others) allows the student to learn, mediated by the teacher and / or the instructor specialist, to think and to behave in that pro-

fessional environment and to face and solve their problems or situations.

In the company the student learns with:

1. The use and handling of the material resources of each specialty. This allows one to appropriate the way or manner of working. Each specialty or technical-professional career is different; therefore, each requires work with material resources which are to a large extent also different. Working with the means and tools of construction, agriculture or mechanics will not be the same as working with the means and tools of information technology, nursing or beauty services, just to mention a few; However, all of them require a specific knowing-how of each specialty.

2. The interrelation with the tutor, the instructor specialist and the rest of the working group. With them, he/she learns and incorporates the ethics, morals and values of each profession. For example, learns from the recommendations, the suggestions to attend, proceed, act and behave in the situations of each profession. Each one of them has a particular seal that is also transmitted to the professional in training, reinforcing the character of the TLP. Not only there are different ways of acting among professionals from different specialties and careers, but there are also different specialists from the same profession.

Similarly, in this communication process, the professional in training learns the technical-professional language, the symbols (words, numbers, images, graphics, diagrams, etc.) of each specialty or career, only understandable by its specialists. The pro-

fessions are characterized by their own language, which includes the reference to the voluminous set of terms and concepts that cover the different semantic fields of these types of activities which are related to the moment of the historical development of each specialty or technical-professional career, warning their structures and contents. Likewise, the technical-professional language used by the specialist or worker is integrated by the set of terms that designate the contexts where the professions are formed and developed, the specific terms of the different technical-professional specialties that make up this field of knowledge, as well as the practical and theoretical knowledge through which the experience of this teaching goes, in addition to the verbal and textual methodologies it comprises (Mena and Sarracino, 2010).

So, given the degree of particularity that each profession requires and within it the development of different knowledge and skills, it is useful for the teacher to reflect on the didactic-methodological options that must be followed when considering what characterizes each profession. Each specialty urges or requires different communication methods where different languages work more practically or manipulative (turnery, mechanics, carpentry, agronomy, etc.) and other more theoretical and academic (journalism, tourism, IT, marketing, etc.). It is even common that the method changes within the branches according to the professional level, the state of learning, the complexity of the professional problem to be solved, the type of professional situation that is faced.

On the one hand, the content (knowledge, skills, values and attitudes) of learning for a worker, for a technician or for a mechanical engineer, is not the same as the content that the

electrician worker must learn. Within the same professional level -worker, medium technician or engineer- the content is not taught in the same way to different degrees of complexity of professional problems.

All this establishes a direct relation of the methods of the TLP in the company with the rest of the didactic components of the process: professional problem, objectives, content, means of education, forms of organization of the activity and evaluation of learning.

3. LEARNING FROM THE DEMANDS AND CONDITIONS OF WORK.

According to the postulates of Bruner (1996), the brain of the human being is an extension of the means and tools that the human uses in hisher life and, as a consequence, it is an extension of working activities, actions and operations in which it is essential to use these means and tools. The human being learns socio-historical experience when it is useful, important and meaningful for his/her present and future (Bermúdez and Pérez, 2004). If the activities, actions and operations related to the work do have these qualities, because it guarantees the means and the minimum subsistence conditions, then they will also have the tools and means that facilitate the efficient development of the working activity. This is learned quickly if the working conditions: objective – physical assurances – and subjective – psychological assurances such as motivation and interests – have been prepared properly and with intention.

From the very beginning, the importance of "explaining with facts, not just words" is recognized. This element indicates that

learning is better and deeper when the explanation (the word) is accompanied by physical action (the fact, things). This reinforces the idea that students learn more when they are doing, practicing, exercising, producing. However, if the physical action was reinforced, preceded by the explanation of the "what", the "how" and the why "the learning is faster and fecund. This stage can initiate and finish the assimilation process of the content. It can be the beginning when a route starts by actions and facts related to the theory studied; when he sees doing, when he tries to do it, when he does it for the first time and when he does the minimum repetitions (operations) to convert theoretical knowledge into skills. That is to say, learning constitutes an activity of reciprocity between the theoretical knowledge learned from the teacher, the specialist instructor or the book and the practical exercise of the content, experienced and / or repeated enough.

Another important element is to be able to analyze the activity in those actions with different degrees of complexity. So that the student, under the guidance or orientation of the teacher, can graduate the repetitions with an emphasis on the most complex until he masters them. In the psychological order it is recognized that the student gets to form a habit when he performs the operations of the activity automatically, unconsciously. However, in the pedagogical order, to form a habit during the practical class, the actions and operations, in the execution phase of each activity, must be carried out and repeated in a deliberate and conscious way, under the guidance of the educator.

In this way, through this psycho-pedagogical mechanism the student comes to form and develop a skill when, from the cooperative work that he / she carries out with the teacher and the instructor specialist, he systematizes the actions of the activity

he / she carries out and converts them into habits facing the professional problems of his/her specialty or career.

Accordingly, the explanation and demonstration of the teacher with their levels of help is important until student no longer needs help or support from the teacher. That is, learning in the practical activity, conducted and evaluated by the teacher and the instructor, leads the student to master the most difficult and complex actions and operations. For authors such as León and Abreu (2012), professional training should guide the development of students towards the achievement of training objectives, from a process of cooperation between educators and students, in conditions that facilitate the appropriation of technical – professional culture. This culture should guarantee the successful performance of the future worker once incorporated into the company.

However, the gradual modification of the structures and functions that make up the personality of the professional have to be modeled during their initial training, in a process aimed at achieving their integral technical-professional development, as an essential purpose. Towards this end, the educational influences of educators should be addressed. On the other hand, the integration of students to the direct process in companies, together with their workers, exercises a system of formative influences is essential. So, the TLP of professional training in business conditions requires traversing ways, paths that dynamize the process and are closely related to the productive professional activity in which the student learns, in a process of cooperation with teachers and specialists As we have seen so far, the methods required for the TLP under company conditions must

be closely interrelated and influenced by the characteristics and features of the production and service processes.

Mena (2012), argues that the learning in the company is guided and limited by the logic of productive work or services. The student learns if he joins the process, observing, helping and participating from the simplest tasks to the most complex ones or by trying to understand what is really happening. The productive process or services should not be altered by the students, nor will it slow down or stop for the students to complete their learning. On the other hand, the specialist of the company is profitable and will obtain gains in relation to its productivity and this goes in direct relation with the efficient use of the time that occupies its workday. That is to say, the dynamics of the TLP in the company has as a pedagogical base the theory-practice integration, theory practice. It is based on learning in productive professional activity mediated by educators. Its essence lies in the fact that theoretical or intellectual learning is developed and consolidated with practical or manual work during the solution of professional problems through a permanent reflection.

The learning process and its dynamics occur in the reciprocal transit of thought to action and action to thought, including reflection processes on the actions contained in the professional activity, in this sense it is important that the educator leads students to think, creating situations that force the student to think. In essence, the hands and the thought – the mind – are maintained in a dialectical interrelation. When this process is accompanied by the student's knowledge of its economic importance and what it he/she contributing to society, he/she becomes a conscious producer. Then learning has a new meaning for the student.

4. THE METHOD OF TRAINING IN PROFESSIONAL ACTIVITY AND ITS COOPERATING CHARACTER

The TLP in the company is characterised amongst others by the features of the production process or services and the organization of this process. One of the essential characteristics of these processes in company conditions is the field of the profession (professional problems). Thus, students should be trained to solve these problems and therefore their confrontation and solution during the TLP becomes one of the essential purposes. Assuming these previous criteria supports a new look at the relationship and the role of the teaching categories of the TLP. From this perspective, the professional problem, in addition to acquiring didactic character while the rest are conditioned to its solution, acquires the relevant role that will guide the TLP. In this way, appropriating the contents means a main condition to face and solve the professional problem; then the method will be the way by which the student must obtain the necessary content to solve the problem he/she faces during the teaching activity.

Another important place in this analysis is the character of the teaching activity. As it was analised before, the productive process does not hinder the development of the pedagogical process. It is required that the latter subordinate and adapt to the first-principle of the subordination of the pedagogical process to the productive process (Mena 2012), which means that the teaching activity should be developed in the productive activity itself, acquiring a productive-pedagogical character. Finally, the TLP in the company should take place in deep cooperation between the educators (teaching) and the students (learning), so that the method supposes the guarantee of this

indispensable interrelation. Important aspect is that during the whole process the teacher and the company specialist, acting in a coherent manner, organize the student's activity on the object of study or work (objectal activity) that will be directly related to the productive activity which is done to solve the projected professional problem. It is in this cooperation that the process of appropriation of professional content takes place, on the part of the student.

Cooperative learning (Bermúdez and Pérez, 2012), among the students themselves and / or among them and the specialist instructors, the mutual consultations, the constant reflections between students when the educator is in other activities, also supporting and influencing the learning in practical activity, in action. The relationship that is formed in the work is long lasting and constitutes a relationship among workers (Abreu, 2004), because the time that students spend with the educator in the productive workshop of the company, while solving professional problems, faster consolidates the relationships among them, if it is compared with other scenarios. For what one may understand that the teaching method in the company as the internal management of the TLP from the necessary organization of the processes of activity-communication that are developed in the productive professional activity during the training process that has, as an essential objective, that the student learns to solve the stated professional problem. This method is known as: the method of training in productive professional activity under the student educator cooperation.

The true integration of the student to the work entity, will depend on the formation and development of a series of attitudes that, although they begin to form from the first year in the institution of professional training, are developed and con-

solidated throughout the practical activities in the company. Positive attitudes such as: responsibility towards work and its quality; the spirit of collaboration; execution of working methods; cleanliness and organization; attendance and punctuality; the assumption and compliance with standards; the ability to communicate and collaborate; curiosity and interest in learning; autonomy and initiative; work in teams; the disposition and decision making; the ethics of the profession; Entrepreneurship as well as social commitment, among others, are the property of any competent professional and are more easily developed in real production processes and services.

Special attention deserves the social commitment as an attitude to form and develop. The social commitment at present constitutes, more than an indicator, a more complex variable to develop in a competent professional with producer conscience. In this sense, the method of training in productive professional activity has a marked social character, while training requires the assimilation of social concepts in the working activity, which constitute factors of competence in a significant way.

The learning of professional content in real working conditions and under the direct influence and cooperation of the specialist instructors and the labor collective, results in productive contributions to society (Mena, 2008). The method of training in productive professional activity is therefore a necessary path from the socio-educational point of view, by the guarantee of the conditions that it offers to the achievement of the objective, content professional relationships and to the student's spiritual growth. Chávez (2005), attributes a special importance to the socioeducational influence in the formation and development of personality, based both on the relationships between indi-

viduals and among them and society itself. During the actions and operations necessary for the development of professional skills, in the solution of real problems, the assimilation of the contents is important from the individuality and in this the relationship with the workers of the company is vital, as for the student, because there is after a dilemma when making professional decisions from a personal point of view. This socio-labor relationship, according to Blanco (2004), makes that the formation of the personality of the future worker, assume the criteria and points of view of his/her class; that is, that he/she learns to represent, at an individual level, the social contents that are determined by his class origin. With the increase of productive-training actions in the solution of professional problems, student´s activity is also increasing, which makes their position evolve before their social contribution. In this process and fundamentally through the method of training in productive professional activity is modeling the professional, even achieving, before leaving the specialty or career, if the existing conditions are conducive. Therefore, productive-pedagogical activities in business practices are essential components of the method, due to the diversity of scenarios and contexts in which the appropriation of learning contents takes place.

In general, the training and development of professional content in trainees, through the method of training in productive professional activity to a large extent depends on the degree and depth with which the cooperation of educators with students inserted in the company. During the development of practical activities in companies, educators should also practice permanent analysis where there is no lack of: dialogue, reflection, as well as collective discussion; all with intentional and premedi-

tated character. These communicative actions are essential and also constitute essential procedures of the method of training in productive professional activity through student educator cooperation.

5. ESSENTIAL FEATURES THAT DISTINGUISH THE METHOD OF TRAINING IN THE PRODUCTIVE PROFESSIONAL ACTIVITY

Being consistent with the arguments presented above, the essence of the method of training in professional activity is given in two essential elements: the development of the professional pedagogical process from the solution of real problems of production and / or services and, cooperative work among the teacher, the instructor specialist, the students, the group and the labor collective.

Bermúdez and Pérez (2012), defend a group of essential conditions that propitiate the appropriation of the contents of the profession and the personal growth of the students of the VET. One of them is established by guaranteeing the correspondence of the activity to be developed with the demands of the professional model. This condition is certified if an adequate definition, selection and analysis of the types of professional problems is made according to the aims and stages of the professional training in the company (Acosta, 2012). The rest of them reflect the need for a positive disposition towards learning and personal growth by the student, to which we add the same disposition towards teaching by the educators. These specialists also establish the need for a positive psychological and emotional climate; as well as, the transformation of reality being understood in the

correct solutions of the professional problem and of the positive changes both in the student and in the teachers. Finally, they add, as an essential element, the systematic self-assessment of the formative process, based on self-reflection and continuous evaluation of the process and student is learning.

In the process of student´s learning, play an important role the possibility of reflecting, experimenting, finding solutions, correcting mistakes. However, it is true that the student faces a professional problem with a certain level of complexity, which he/she has to give a solution but, it is also true that the development of different levels of assimilation / performance will depend on the different levels of aid that he/she is able to have on the part of the professors, the specialist instructors and of the collective reflection among fellow students of the group and of the labor collective. Both the teacher and the instructor specialist should not forget that while they know the possible solutions to the problem, the student faces them for the first time.

Labarrere and Valdivia (1988) consider that the teaching method, as a category of the pedagogical process, should have a series of features among there are:

- The objectives,
- The system of actions,
- The tools and artifacts to use
- Existence of an object
- Achievement of a result.

The essential objective of the method of training in productive professional activity is related to the student taking ownership of those contents of the profession that are essential for their future socio-professional performance once they have graduated from the initial VET process. That is to say, the objectives must be conceived and oriented towards the solution of the professional problems that the students will face during the development of productive-pedagogical activities. Likewise, they should be aware that the training processes in the professional activity should be organized based on a system of actions common to any knowledge process, but with an extremely complex nature due to the social and labor conditions in which they take place. Among the fundamental actions are:

1 – Determination of the prior knowledge that students have to face a specific professional problem.

This information makes it possible to organize the possible intervention of the educators, the distribution of actions among the students following the preparation levels of each one, the organization of the levels of help that should be provided to each specific student and the possible collaboration of the more advantaged students or the rest of the workers of the collective. In the same way, the information provided by this diagnosis allows organizing the possible rotation for jobs, depending on: the number of jobs, the productive-teaching tasks and the number of students.

2 – Determination of the conditions for the development of teaching tasks.

In this phase it is important to be clear about the demands of the professional model, so that the professional problems as well as the actions and operations that make up the productive – teaching activities correspond in order to achieve the proposed objectives.

The selection and presentation of the information required to develop a certain activity is decisive. In this direction, you need to know:

- The technological requirements of the problem to be solved.
- The information provided by the existing technical documentation.
- Technical economical indicators.
- Safety and hygiene standards.
- Necessary and available tools and devices for work. When they are not owned, other complementary solutions must be taken into account, among other factors.

The potentialities contained in the professional problem should also be taken into account for the development of attitudes in correspondence with the established model. Finally, as an essential and determining element, it is important to demonstrate the activities to be carried out by the teacher and / or the instructor specialist.

3 – Analysis and previous reflection of the obtained information.

The information obtained should allow educators, as a step prior to the beginning of the activity, to carry out a collective analysis with the students and a reflection of the possible steps to be taken and the possible solutions to be offered in each professional problem. As the academic period progresses and the students have more mastery of the content, these discussions become true scientific-technical-pedagogical analyzes that pay tribute to the growth and professional reaffirmation of the future mid-level worker.

The possibility of self-reflection positively increases attitudes towards formative activities with a high personal significance for the student; When taken into account, it feels useful and important.

In the same way, this analysis allows the distribution and establishment of the rotation for the existing jobs in the productive teaching workshop of the company.

4 – Execution of the productive – teaching activities from the confrontation and solution of the professional problem.

In this phase, preconceived tasks are carried out collectively within a global comprehension of the process in which they are immersed. It corresponds to the execution of the professional problem where the organization established in advance is put into practice the follow-up given to the students is important, the reflections that may occur during the work, the collaboration among them, the evacuation of the difficulties that arise in the cognitive order at every moment.

It is an ideal phase for the student to reflect and self-assess the quality of their own performance based on the results obtained in the activity.

5 – Analysis and final assessment of the performed activity.

The analysis remains an essential process of the method. In this phase of the method the educators evaluate the students attending to different visions. The first one corresponds to the quality of the finished work or depending on the solved professional problem. The evaluation is the result of the ascending development of the student during the activity, as it has a systematic character.

It is important to carry out together, as in action two, a balance of the results achieved in solving the professional problem. Although the integral criterion that the educator has about the student's performance is important, the final result should also be made up of two essential elements: the student's criteria on his own work, his limitations, his achievements, etc. (self-evaluation), as well as the criteria of the rest of the students regarding the progress and limitations of their classmates. That is, it is important to request the opinions of the students themselves.

Comprehensive general assessments made by educators are necessary, stating the most significant achievements and deficiencies of the group of students and highlighting those with the best results, according to the established parameters in relation to the socioeconomic contribution given with the solution of the professional problem.

6. The procedures that speed up the method.

The execution of the method requires the use of a group of valid procedures for learning in the company that can be used in greater or lesser amounts and significance depending on the phases that are executed at each moment. Among them we have

- The preliminary orientation of the teacher and the specialist on the activity to be carried out.
- The explanation and demonstration of the teacher and the specialist on the activity to be carried out.
- The observation of the student, guided by the teacher and the instructor specialists.
- The imitation or repetition of actions and operations by the student guided by the teacher and the instructor specialist.
- The trial and error, practicing in certain situations that do not compromise the productive process and / or services.
- Intentional exchange between the student and the teacher guided by the latter.
- Listening, observation, taking note and feedback
- Observation-conversation-reflection.
- The explanation and the help of the teacher, of other more advantaged colleagues of the labor collective.
- The confrontation and solution of real professional problems.
- Schematize- draw – graph given situations.
- The orientation of the teacher-execution of the student.
- The re-creation of virtual environments of certain operations of the process
- The simulation through ICT

6.CONCLUDING DISCUSSION

TLP in the company, is in itself a complex process, also assumes the complexities of the production process itself and its components – personal and non-personal – now also didactic components, so it requires a meticulous study from the methodological point of view, associated to the forms, the conditions and the moment in which the pedagogical process takes place within or as part of the productive process.

An important component of the proposed method is the tools and artifacts. Essentially this component in productive professional activity acquires a real character (Aragón 1988); in this sense, the means that guarantee the method of training in the productive professional activity, are made up of the elements of the workplace, the productive teaching workshop of the company and the productive-pedagogical scenario in general. This characteristic gives the medium, the method and the process in general a complex character, while the means change with the change of professional problem to be solved. This element, far from being a problem for training, is an advantage given in the possibility that the student is trained in the diversity of activities and learn possible solutions more quickly that may apply in other professional situations.

Another feature of the method of training in productive professional activity, is given in the object on which the action falls, so it is essential to know its characteristics. In this sense, the object to which the method is directed is the TLP that takes place in the company, under the real conditions of production and services. This highly complex process includes all the char-

acteristics of the production process, to which to the pedagogical process must be subordinated and to which the student must adapt during him/herself own training.

Finally, another relevant feature of the method of training in productive professional activity is the final result, which is associated with the productive-training character in each individual teaching activity as in the system of activities that make up the process, which is what it shows in:

- the solution given by the student to the addressed professional problem.
- the particular contribution of this solution to the student's training process.
- the contribution of the student, as a worker to the social commission of the entity
- the integral technical-professional development that must be achieved as a result of the process, which is modeled on worker, and which will allow him to insert himself into the labor world, making effective his right to work.

Controversial as it might be, as a conclusion it can be considered that one of the limitations that the teaching methods in general have had consists on the one hand, in overvaluing the participation of the educator imprinting a mechanistic and dogmatic happens on the contrary, there is an excessive prominence to the student without taking into account the proper guidance of educators to create in students their own strategies of study and learning.

The method of training in productive professional activity through student educator cooperation, privileges collabora-

tive work and permanent reflection. It obviously acknowledges the known and basic methods of the TLP, but integrates them, assuming them even as a complement to their actions. Under productive conditions, it is very difficult to achieve learning without the educator – student exchange. The method requires developing in the student the creative and independent thinking inherent to the competent professional. The very diversity that characterizes the object of study of the method makes the student both object and subject of the formative process, the student as a result grows personally, transforms and grow.

REFERENCES

Acosta, A. (2012). Concepción didáctica metodológica para el proceso de enseñanza práctica de la soldadura en la entidad productiva. Tesis doctoral. UCP Rafael María de Mendive. Pinar del Río.

Abreu, R y Cuevas, C. (2012) Compendio de trabajos de postrado, La Habana: Pueblo y Educación.

Aguilar Hernández, V. (2014). La evaluación de la apropiación de los contenidos profesionales durante la inserción laboral en la rama del transporte. Tesis de doctorado, versión de predefensa. UCP Rafael María de Mendive.

Aragón Castro A. (2013). Retos y perspectivas de la ETP. Conferencia magistral, en la inauguración del I Taller Nacional "La pedagogía Profesional y su influencia en el desarrollo socioeconómico cubano". Pinar del Río, 21 de mayo.

Bermúdez, R. M Y Pérez, L. M (2004): Aprendizaje formativo y crecimiento personal, La Habana: Pueblo y Educación.

Blanco, A. (2001). Sociología de la educación. La Habana: Pueblo y Educación.

_____ (2012): "Los procesos formativos en la Educación Técnica y Profesional", en: R. Abreu, R. y C. Cuevas C. (comp), Compendio de trabajos de postrado, La Habana: Pueblo y Educación.

Castro Ruz, F. (1966) Discurso pronunciado el 18 de diciembre de 1966, en el acto de graduación de los primeros técnicos del Consejo del Plan de la Enseñanza Tecnológica de Suelos, Fertilizantes y Ganadería. La Habana.

Colectivo de autores de la UCPETP (2013). Pedagogía de la ETP. En soporte digital.

Chávez, J.; Suárez, A. y Permuy, L. D. (2005) Acercamiento necesario a la Pedagogía General. La Habana: Pueblo y Educación.

Labarrere, G y Valdivia, G. (1988). Pedagogía. La Habana: Pueblo y Educación.

Mena J. A. (2008). Metodología para potenciar la integración entre la escuela politécnica y la entidad laboral de la rama del transporte, en Pinar del Río. Tesis Doctoral. ISPETP. La Habana.

Educating the Floristry Gaze

Camilla Gåfvels[*]

Abstract: This chapter summarises some of the key takeaways from my 2016 doctoral thesis, 'Educated Gaze on Flowers: The Formation of Vocational Knowing in Floristry Education'. As compared to an article-based thesis, the focus is less on the content of the (four) separate articles and more on the introductory chapter of a compilation thesis,[9] originally meant to deepen and frame the separate investigations behind each of the articles, thereby conveying more of the overarching results in parallel with the overall theoretical reasoning. The focus of the thesis is the formation of vocational knowing within adult and upper secondary floristry education in Sweden. The research is based on a sociocultural perspective on educational practice (Säljö, 2011, 2013; Wertsch, 1998) and a relational view of knowing (e.g. Carlgren, 2015; Molander, 1996). The results contribute to understanding the schooling of the gaze (Goodwin, 1994; Grasseni, 2009, 2011), as appropriated by participants in the interaction. Floristry vocational knowing is shown to evolve in the temporal dimension, encompassing (1) financial and aesthetic

---

9   The reason for this choice is twofold. First, there seems to be little point in a word-by-word repeating of the 'English summary' from the original thesis. Second, the focal points for two of the four original articles were altered during the publication process.

*   Correspondence: camilla.gafvels@konstfack.se

values, (2) verbal and non-verbal communication, (3) botanical materials and tools and (4) making. The respective roles and interrelations of these four components of vocational knowing in floristry are discussed. The contribution of the thesis is twofold. First, the thesis contributes to the understanding of vocational education through a close appraisal of the formation of vocational knowing. Second, in exploring the previously under-researched field of Swedish floristry vocational education, the thesis bridges a gap in the existing knowledge regarding the evolution of Swedish vocational education. As floristry education is little researched internationally, the thesis also contributes to the wider body of international research.

Keywords: vocational knowing, floristry education, professional vision, schooled gaze

1. AIM AND RESEARCH QUESTION

This thesis aims to describe how students' vocational knowing is formed in floristry education, focusing particularly on the schooling of their gaze in respect to flowers and floral arrangements. Empirical studies concerning the focus of attention when creating floral arrangements describe different aspects of the educated gaze and how it changes over time. The following research question has guided the work:

How is vocational knowing formed in floristry education, and how does educational practice form the educated gaze?

2. FLORISTRY EDUCATION IN TEMPORAL AND SPATIAL CONTEXTS

2.1 PREVIOUS RESEARCH

Although various aspects of the evolution of vocational education in Sweden (as well as the history of specific vocations) have been documented in the research of Lennart Nilsson (1981), Inger Lindell (1992), Anders Hedman (2001), Lars Larsson (2001), Jonas Olofsson (2005) and Anders Nilsson (2008), floristry vocational education has to date been neglected.

Broadening the search for floristry studies to an international (English language) perspective, research was found to be relatively scarce, particularly regarding vocational education in floristry. However, a few studies were found related to the culture surrounding flowers (e.g. Goody, 1993), the flower market (e.g. Ziegler, 2007), creativity in an educational setting (e.g. Haas, 1990), specific types of flower decorations (e.g. Eriksen, 2013) and action research on upper secondary school apprenticeship in Norway (e.g. Haaland Sund, 2005).

2.2 GLOBAL PERSPECTIVE

The culture surrounding flowers (e.g. Goody, 1993) has varied with time, place, religion and other features of the wider societal context. Extensive cultivation and commerce existed at the time of (or even prior to) ancient Egypt, Greece and Rome. Starting in the U.S. in the latter part of the 19th century, consumer demand for flowers spread from the upper classes to the growing middleclass and onward, all the way to the evolving mass market (Ziegler, 2007). Today, the cut-flower trade is global,

with large plantations in Africa and South America (Riisgard, 2009), and depends on long-distance transport (Ziegler, 2007). A lack of equality and a workforce comprised of predominantly women characterise the production process (Meier, 1999; Sanmiguel-Valderrama, 2007).

2.3 SWEDISH PERSPECTIVE

Swedish flower culture has evolved through an interaction between the global and the local. In Sweden, flowers are traditionally bought from the florist (retailers) or from cultivators (at their plantation or in the local marketplace). Since the end of the 20th century, in Sweden and in other countries, flowers can also be bought in ordinary supermarkets. The establishment of floristry education in Sweden can be viewed as reflecting the increase in the demand for flowers. In Sweden, the first floristry education school was founded in 1944 (Gårlin & Carlsson–Ring, 1995). For several decades, it remained the only such institution in this elongated and sparsely populated Nordic country. Over the years, schooling has changed in tandem with political reform and the demand for educated florists. Major reforms to the national upper secondary school system in 1993 and 2011 (Lundahl, 1998, 2008) led to a sharp increase in the number of schools offering floristry education, as well as a temporary surge in the number of applications. In 2016, the number of applicants to upper secondary floristry vocational education was in decline, while adult applications showed the opposite trend (Skolverket, 2016).

3. THEORY AND METHOD USED

3.1 RELATIONAL VIEW OF VOCATION-SPECIFIC KNOWING

The research is based on a sociocultural perspective on educational practice (Säljö, 2011, 2013; Wertsch, 1998) and a relational view of knowing (e.g. Carlgren, 2015; Molander, 1996). While research on floristry vocational education and knowing—as mentioned above—is relatively scarce, both in Sweden and internationally, the wider area of vocational knowing in handicrafts has generated more attention. Regarding vocation-specific knowing, numerous studies have explored the characteristics of vocational knowing in specific occupational contexts. Learning how to discern material nuances (such as different soil layers) or changes to the material in question following heating or other controlled procedures has characterised several studies (e.g. Goodwin, 1994; Illum & Johansson, 2009; Ingold, 2013; Keller & Keller, 1998).

3.2 GAZE, SEEING AND VISION—INCORPORATING ALL SENSES

To access floristry vocational knowing (more generally, forms of vocational knowing that include tacit values), it is useful to introduce the concept of the gaze or professional vision (e.g. Goodwin, 1994; Grasseni, 2009, 2011). While other terms might also be used in this context, the gaze can be understood to include more than what is grasped with the eyes. Charles Goodwin (1994) defined professional vision as 'socially organized ways of seeing and understanding events that are answerable to the distinctive interests of a particular social group' (p. 606). Influ-

enced by Goodwin, Christina Grasseni (2009) described the 'skilled visions' embedded in multi-sensory practices: '[...] where look is coordinated with skilled movements, with rapidly changing points of view, or with other senses, such as touch' (p. 4).

Because the experience of one's body is a central component of what one perceives, the gaze, too, is about what the whole body experiences rather than being restricted to what is captured by the eyes alone. In the words of Willerslev:

> All our senses are modalities of perception, and are as such cooperative and commutable. Our sight is, consequently, never just sight—it sees what our hands can touch, our nose can smell, and our tongue can taste. Indeed, all of our senses are implicated in our vision, and there is no such activity as "just" looking. (Willerslev, 2009, s. 41).

However, there is little research to date on the type of gaze that relates to the aesthetic aspects of materials, such as colour, form and texture, or the interrelations of different materials. This is also the case for other features of vocational knowing considered relevant within the floristry sector.

3.3 THE ROLE OF CONTEXT

Perception and action need not necessarily be thought of as separate processes: 'We do not perceive and then act: perception is itself one of the instrumentalities or modes of action' (Wartofsky, 1973, s. 195). Against this backdrop, it should come as no surprise that a central aspect of the gaze is that there is no singular or independent gaze—rather, it is always embedded within a historic context (e.g. Wartofsky, 1973):

For the very foundation of what is distinctively human in perception, it is the character as a socially and historically achieved and changing mode of human action: and thereby invested with a cognitive, affective and teleological character which exemplifies it as a social, and not merely a biological or neurophysiological activity. What is more, it is not an activity *of* the perceptual system or of a specific sense-modality, but an activity of the whole organism. (Wartofsky, 1973, s. 196)

Ryle (1948) used a powerful metaphor to illustrate how context—and thereby tradition—influences what one sees:

In some ways, the observance of rules and the using of criteria resemble the employment of spectacles. We look through them but not at them. And as the person who looks much at his spectacles betrays that he has difficulties in looking through them, so people who appeal much to principles show that they do not know how to act. (Ryle, 1948, s. 229)

The quote conveys a picture of how norms and traditions affect the gaze, much like a filter of rules. Within vocational knowing—having appropriated the gaze—there is an element of potential choice. In other words, having appropriated the gaze can be said to be something similar with Ryle´s (1948) concept of *knowing how.* Tradition—and context—is imbued with vested interests. Overall, the prevailing understanding of institutional settings is 'complex and subtle' (Streeck et al., 2011, p. 18). The teacher has an eye for how things ought to be done, and as part of the educational trajectory, other participants appropriate the teacher's gaze within the relational process, gaining insight into other participants' views on floral arrangement and the associated vocation.

Therefore, the students are also likely to influence the teacher. Context, materials, tools and other mediating resources support the gaze that results from the participants' appropriation throughout this relational schooling process (Wertsch, 1998).

3.4 TACIT KNOWING

Furthermore, craft and handicraft knowing (including floristry) can be explained in terms of so-called tacit knowing (Polanyi, 2009). Taste in the form of aesthetic judgement can be understood as a form of tacit knowing; thus, the educated gaze is also to be understood as a form of tacit knowing within the relational view on knowing—i.e. participants can influence as well as be subjected to the school's assignments and the vocation's traditions.

4.METHOD: PARTICIPANT OBSERVATION, CONVERSATION ANALYSIS AND INTERVIEWS

Since the method used differs between the separate articles in the thesis, this section is kept short and focuses on the common methodological elements in the overall research process. The empirical approach adopted for the thesis includes video and audio recordings, in combination with participant observation, as well as interview data. The data were collected at five different schools. Part of the analysis draws on conversation analysis as a tool for structuring the data and for illuminating the formation of vocational knowing within the institutional setting (Goodwin & Heritage, 1990; Sahlström & Melander, 2010). As noted above, the method adopts a sociocultural perspective; therefore, my own background (with several years of experience as both a professional florist and a floristry teacher) has influenced my

understanding of the study's content and the results obtained. In terms of research ethics, it has been of central importance to protect the participants' identities, as well as their rights to privacy and confidentiality (Vetenskapsrådet, 2011); however, it is not theoretically possible to guarantee their anonymity in perpetuity (e.g. Derry et al., 2007).

5. VOCATIONAL DIDACTIC MODEL

The model below describes how knowing content is formed in communication between teachers and students in relation to the curriculum and syllabus, social issues and vocational and epistemic traditions (e.g. Carlgren, 2015, p. 205).

Figure 1: Aspects and relations in vocational subject matter, based on Carlgren (2015, p. 205). The model is a (minor) development. The changes made concern the direction of arrows and the adding of the temporal dimension.
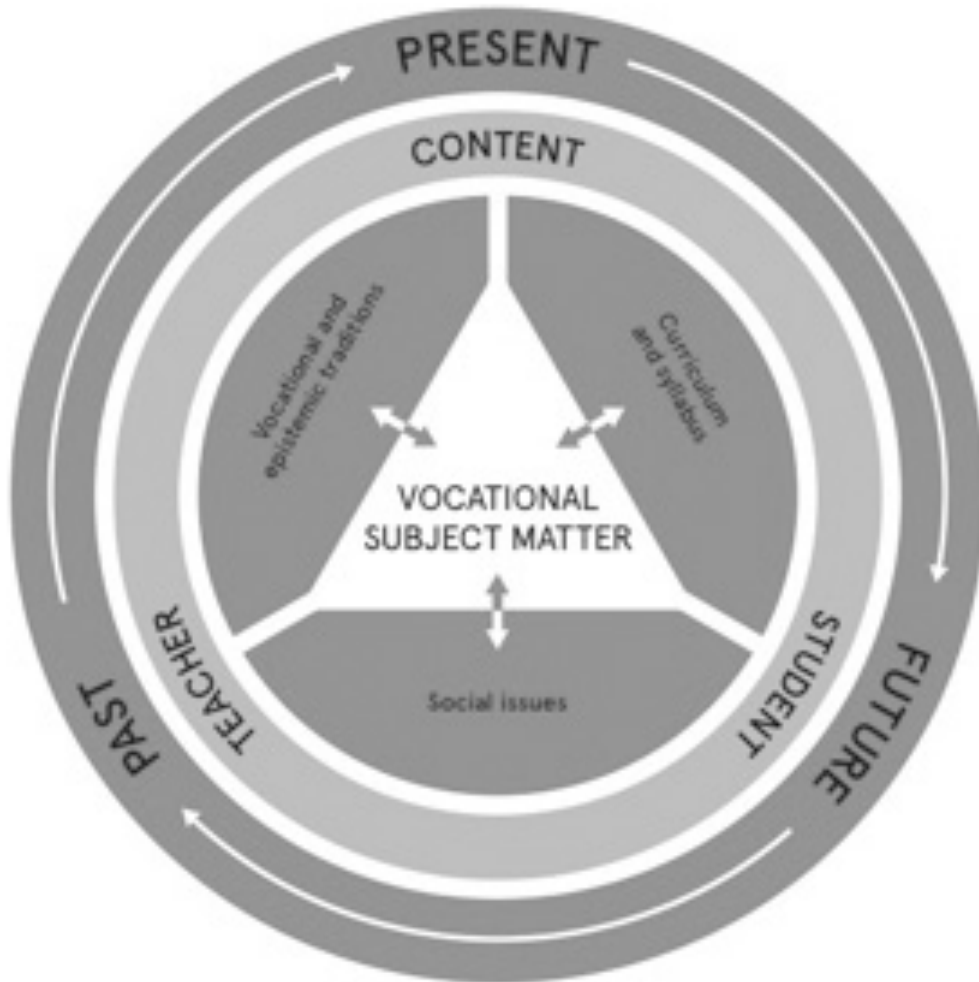
The temporal aspect—in the model, in terms of past, present and future—influences the content of the vocational subject. Thus, the components that form part of the model combine to convey what is the starting point of subject-knowing content in parallel with the so-called didactic triangle, which describes the relation between content, teacher and student (Hopmann, 1997). This is, in turn, related to the purpose, method and con-

tent of the vocational subject. In other words, what forms floristry education is to a large extent a question about the participants' interactions and relations.

6. FOUR ASPECTS OF FLORISTRY VOCATIONAL KNOWING

This section is about the results—from the separate articles—on an aggregated and overarching level. The analysis is based on—and supported by—the total body of empiric data, not merely what is accounted for in the articles. A model is used at the end of this section to answer the thesis research question—How is vocational knowing formed in floristry education, and how does educational practice form the educated gaze? Four aspects emerged as central to the schooling of the gaze for flowers and floral arrangements: (1) financial and aesthetic values, (2) verbal and non-verbal communication, (3) material and tools, and (4) making and technique.

6.1 VALUES: FINANCIAL AND AESTHETIC

On the surface, aesthetic values clearly form part of the vocational knowing of florists, which is also confirmed by the empiric material—since aesthetics concern how one's senses relate to the surrounding world— while strongly emphasising the financial dimension of the schooled gaze. In teaching, financial values recur again and again as a point of reference for the aesthetics of floral arrangements.

Aesthetic values—taste is not immune to change—mirror context, group and time. Therefore, students may bring with

146

them a certain taste when entering the education, and they later learn to gaze beyond their own personal taste and ideas. Thus, taste is likely formed throughout the education trajectory from the financial and aesthetic values that come to the fore in the classroom by means of different modalities, whereby students develop new ways of experiencing the world from their education (e.g. Carlgren, 2015). The teacher also successively adapts her/his taste in relation to the students' arrangements, as well as in relation to current trends—a possibility that sociocultural perspectives on learning support (e.g. Wertsch, 1998).

6.2 VERBAL AND NON-VERBAL COMMUNICATION

What happens in education is a question of communication, mediating vocational knowing and gaze. Questions about compositional matters are recurrent themes in conversations. Often, the initiative behind discussions emanates from the students during a work in progress. Participants verbally communicate about the values in floral arrangements. That is the central part of communication, along with body movement and other modalities (e.g. Willerslev, 2009). Therefore, verbal communication is part of social practice, which is subject to change and affected by time and context in the wider sense. Furthermore, verbal communication is never neutral, reflecting the tradition of the floristry subject (e.g. Säljö, 2011).

Like floristry, other craft vocations—that are similarly connected to a market—have financial matters as a central theme. A repeated expression in floristry education is that air is without cost; the air between the flowers in floral arrangements increases the volume, while the individual flowers can also bloom easier in

pace with their inherent maturity process (from bud to blossom). However, air has more visual value than simply allowing flowers to bloom. For example, 10 large dark-red roses can have significant air around them and achieve a sense of volume in a room. Alternatively, the same number of roses can be tightly bound and achieve a different expression with less volume. Thus, 10 red roses can be treated in different ways and thereby create a different willingness to pay among potential customers (who can, in turn, be treated in different ways, entailing varying levels of profitability). Over time, participants in floristry education develop from considering flowers as something to considering flowers as something that achieves something (e.g. Asplund, 1970).

6.3 MATERIAL AND TOOLS

It is striking how materials—the flowers themselves—affect verbal communication, as well as the content of the classes held. When teachers make references in verbal communication, what is mediated most precisely is the individual teacher's knowing about material and the appropriate placements of the flowers in question. The meaning of the material's specific characteristics recurs in this way, more or less clearly. The vocational tradition and its connection to different materials is also shown through how the education is organised. Models and technical sketches mediate how different flowers are to be placed. In interaction, the meaning of the material to the educational practice is evident when teachers repeatedly remove material to show what is to be changed. Hence, flowers are not only mediating but content-wise drivers of communication between participants. Materials are often transformed into tools in the teaching trajectory.

The floristry education's bodily technique is part of the tradition of the craft and, hence, part of classroom communication, along with the material expression in floral arrangements. Technique can be expected to always form part of vocational knowing. The technique can be thought of as part of the pattern of body movement, reminiscent of Polanyi's description of the man with the stick—a prolongation of both the body and the perception, as with tentacles. The technique can also be compared to how something felt black in Goodwin's (1997) research into a geochemistry lab.

6.4 MAKING AND TECHNIQUE

While technical vocational knowing is integrated into teaching practice, it is perhaps also the most hidden aspect in terms of verbal communication. Technique is about everything from handling the basic qualities of different materials to being able to practically arrange and place flowers in different shapes in floral arrangements for separate occasions. During the teachers' demonstrations, technique is shown in the form of where flowers are supposed to be placed. The temporal aspect—for example, that flowers need room to blossom—is of importance to the technical knowing. With the right technique, time becomes a possibility—the flowers develop as desired—and not only a limitation.

Similar to other crafts, the material is affected by handling. If too many hands are placed on flowers—which can easily become the case in teaching—tears will appear. Thus, flowers can be said to have an agency of their own (e.g. Malafouris, 2008). Keller and Keller (1996) also described something similar regarding how the blacksmith makes

the iron change shape with heating and handling the material, which is like how flowers change through handling. As previously mentioned, the main difference is the temporal aspect. Flower materials have a far more ephemeral character than what the blacksmith handles. To be able to arrange flowers is to be aware of the differing needs of different flowers. For example, tulips blossom more quickly than lilacs. Tulips also orient themselves more quickly towards light. In the institutionalised setting of school, this type of knowing is of importance since it affects the general impression of floral arrangements and thereby also what is considered acceptable vocational knowing, which can be compared to rules within the subject tradition (e.g. Janik, 1996). The character of the material and its inherent preconditions thereby determine the possibilities for showing how aesthetic and financial values interact with knowledgeable action by means of verbal communication to connect with teaching practice, which Gee (2008) explained as students encountering specialised ways of acting within the education framework. In this context, it is possible to discern how the four identified aspects of vocational knowing interact with each other.

7. BACK TO THE VOCATIONAL DIDACTIC MODEL AND TOWARDS A MODEL OF SCHOOLED GAZE

The four aspects of vocational knowing are related to the vocational subject through the fact that the schooled gaze (of which they are part) expresses the vocational knowing. Of central meaning to the vocational subject is the connection to vocational traditions, the curriculum the syllabus, practical work questions and how teachers, students and content together influence—and is influenced by—the vocational subject. The dynamic illustrated by the model thereby entails that the voca-

tional subject is both steering and steered by surrounding factors. The relational dimension is in a way not only about what participants do in the present; the importance of time serves as a reminder of future movement, as well as past events.

Below is a simple model—based on the vocational didactic model above—that displays the four aspects of the schooled gaze. The model is to be understood as dynamic, relational and non-hierarchical regarding the constituting components. The temporal dimension is identically expressed in both models. The difference is, among other things, that the components in the schooled-gaze model are less durable, and the schooled gaze is also more prone to change. Furthermore, as previously mentioned, there is more than one gaze at any given moment, which also conveys the elusive character in this relatively hard-to-pin-down type of tacit knowing, similar with how one drives a car. What is said, how gaze is directed and what is done are different aspects of the preconditions for the context renewal potentially occurring in interaction (e.g. Drew & Heritage, 1992).

Figure 2: The educated gaze in floristry education.

PRESENT

COMMUNICATION

MATERIAL AND TOOLS

EDUCATED GAZE

VALUES: FINANCIAL AND AESTHETIC

MAKING AND TECHNIQUE AND TECHNIQUE

PAST

FUTURE
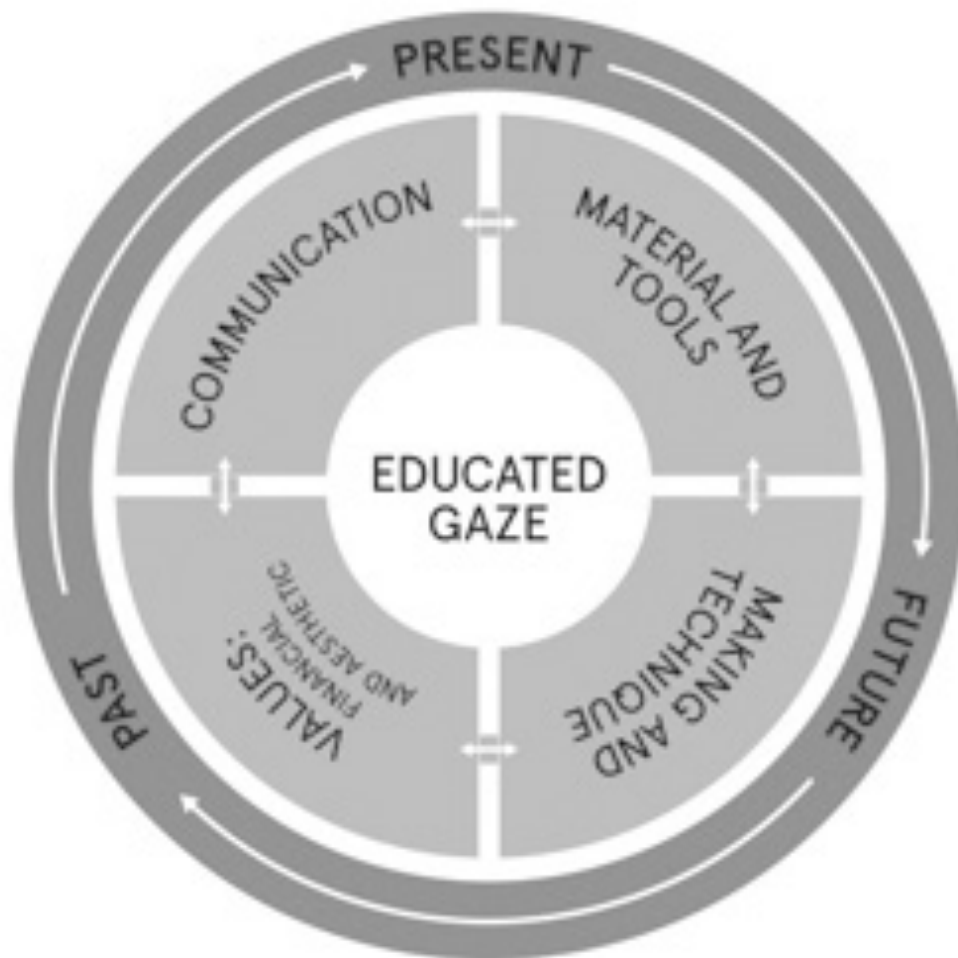
8. CONCLUSION

In relation to the research question (How is vocational knowing formed in floristry education, and how does educational practice form the educated gaze?), it is now clear that vocational knowing is expressed through interaction, enabling students to successively understand and appropriate the teacher's gaze. Regarding vocation, the participants in this dynamic process mutually influence the educated gaze they form together, also defining how vocational knowing is constituted in the institutional setting.

Thus, the answer to what comprises vocation knowing in floristry education is a combination of (1) values—financial and aesthetic, (2) verbal and non-verbal communication, (3) materials and tools and (4) making and technique.

REFERENCES

Asplund, J. (1970). *Om undran inför samhället*. Lund: Grahns tryckeri AB.

Carlgren, I. (2015). *Kunskapskulturer och undervisningspraktiker*. Göteborg: Daidalos.

Derry, S. J., Hickey, D., & Koschmann, T. (2007). Ethical concerns in video data collection. I S. J. Derry (ed.), *Guidelines for video research in education: Recommendations from an expert panel* (s. 59–66). Chicago: Data Research and Development Center.

Drew, P., & Heritage, J. (1992). *Talk at work: Interaction in institutional settings*. Cambridge: Cambridge University Press.

Eriksen, L. (2013) *Dekket, men ikke tildekket – kistedekor i et samtidig perspektiv* (Masteruppsats, Høgskolen i Oslo og Akershus). Hämtad, 2016-08-17, från

Gee, J. P. (2008). A sociocultural perspective on opportunity to learn. I P. A. Moss (ed.), *Assessment, equity, and opportunity to learn* (s. 76–108). Cambridge: Cambridge University Press.

Goodwin, C. (1994). Professional vision. *American Anthropologist, 96*(3), 606–633.

Goodwin, C. (1997). The blackness of black: Color categories as situated practice. I L. B. Resnick, R. Säljö, C. Pontecorvo & B. Burge (ed.), *Discourse, tools and reasoning: Essays on situated cognition* (s. 11–140). New York: Springer.

Goodwin, C., & Heritage, J. (1990). *Conversation analysis. Annual Review of Anthropology, 19*, 283–307.

Goody, J. (1993). *The culture of flowers*. Cambridge: Cambridge University Press.

Grasseni, C. (2009). Good looking: Learning to be a cattle breeder. I C. Grasseni (ed.), *Skilled vision: Between apprenticeship and standards* (s. 47–65). Oxford: Berghahn Books.

Grasseni, C., Banks, M., & Ruby, J. (eds.). (2011). *Made to be seen: Perspectives on the history of visual anthropology*. Chicago: Univeristy of Chicago Press.

Gåfvels, C. (2016). *Skolad blick på blommor: formandet av yrkeskunnande i floristutbildning*. Diss. (sammanfattning) Stockholm : Stockholms universitet, 2016. Stockholm.

Gårlin, N & Carlsson-Ring, M (1995) *En blomstrande tid – blomsterskolan-floristgymnasiet 30 år*. Norrköping: AB trycksaker.

Haas, S. H. (1990). *A case study of creativity enhancement of the physical environment in the teaching of floral art design* (Doktorsavhandling, San Diego).

Hedman, Anders (2001). *I nationens och det praktiska livets tjänst: Det svenska yrkesskolesystemets tillkomst och utveckling 1918 till 1940*. Pedagogiska institutionen, 57. Umeå universitet.

Illum. B., & Johansson, M (2009). Vad är tillräckligt mjukt? – kulturell socialisering och lärande i skolans slöjdpraktik. *FORMakademisk*, 2 (1), 69–82.

Ingold, T. (2013). *Making: anthropology, archaeology, art and architecture*. London: Routledge.

Janik, A. (1996). *Kunskapsbegreppet i praktisk filosofi*. Eslöv: B. Östlings bokförlag. Symposion.

Keller, C. M., & Keller, D. J. (1996). *Cognition and tool use: The blacksmith at work*. Cambridge: Cambridge University Press.

Larsson, L. (2001). *Industri- och hantverksutbildning under två sekel*. Årsböcker i svensk undervisningshistoria, 194. Uppsala: Föreningen för svensk undervisningshistoria.

Lindell, I. (1992). *Disciplinering och yrkesutbildning: Reformarbetet bakom 1918 års praktiska ungdomsskolereform*. Årsböcker i svensk undervisningshistoria 172. Uppsala: Föreningen för svensk undervisningshistoria.

Lundahl, L. (1998). Fortfarande den svenska utbildningspolitikens styvbarn? Debatten om den gymnasiala yrkesutbildningen i Sverige under 1990-talet. *TNTEE Publications, 1*(1), 5–17.

Lundahl, L. (2008). Skilda framtidsvägar. Perspektiv på det tidiga 2000-talets gymnasiereform. *Utbildning & demokrati, 17*(1) 29–51.

Malafouris, L. (2008). At the potter's wheel: An argument for material agency. In C. Knappett & L. Malafouris (eds.), *Material agency: Towards a non-anthropocentric approach*. New York: Springer.

Meier, V. (1999). Cut–flower production in Columbia—A major development success story for women? *Environment and Planning, 31*, 273–289.

Melander, H. & Sahlström, F. (2010). Lärande i interaktion. Stockholm: Liber.

Molander, B. (1996). *Kunskap i handling*. Göteborg: Daidalos.

Nilsson, A. (2008). *Yrkesutbildningen i Sverige 1850–1910*. Uppsala: Föreningen för svensk undervisningshistoria.

Nilsson, L. (1981). *Yrkesutbildning i nutidshistoriskt perspektiv: Yrkesutbildningens utveckling från skråväsendets upphörande 1846 till 1980-talet samt tankar om framtida inriktning*. Göteborg studies in educational sciences, 39. Acta Universitatis Gothoburgensis. Göteborgs universitet.

Olofsson, J. (2005). *Svensk yrkesutbildning: vägval i internationell belysning*. Stockholm: SNS förlag.

Polanyi, M. (2009). *The tacit dimension*. Chicago: The University of Chicago Press.

Riisgaard. (2009). Global value chains, labor organization and private social standards: Lessons from East African cut flower industries. *World Development, 37*(2), 326–340.

Ryle, G. (2002). *The concept of mind*. Chicago: University of Chicago Press.

Sanmiguel-Valderrama, O. (2007). The feminization and racialization of labour in the Colombian fresh-cut flower industry. *Journal of Developing Societies, 23*(1–2), 71–88.

Skolverket. (2016). *Statistik*. Hämtad 2016-03-30, http://siris.skolverket.se/siris/f?p=Siris:1:0

Streeck, J., Goodwin, C., & LeBaron, C. D. (2011). *Embodied interaction: Language and body in the material world.* Cambridge: Cambridge University Press.

Säljö, R. (2011). *Lärande i praktiken: ett sociokulturellt perspektiv*. Stockholm: Norstedts.

Säljö, R. (2013). *Lärande och kulturella redskap: om lärprocesser och det kollektiva minnet*. Lund: Studentlitteratur.

Vetenskapsrådet (2011). *God forskningssed*. Stockholm: Vetenskapsrådet.

Wartofsky, M. (1973). Perception, representation, and the forms of action: Towards an historical epistemology. I R. S. Cohen, D. Davidson, G. Nuchelmans & W. C. Salmon (eds.), *Models: Representation and the scientific understanding* (s. 188–210). Dordrecht: Reidel Publishing Company.

Wertsch, J. V. (1998). *Mind as action*. New York: Oxford University Press.

Willerslev, R. (2009). "To have the world at distance": Reconsidering the significance of vision for social anthropology. I C. Grasseni (ed.), *Skilled vision: Between apprenticeship and standards* (s. 23–47). Oxford: Berghahn Books.

Ziegler, C. (2007). *Favored flowers*: *Culture and economy in a global system*. Location: Duke University Press.

VOCATIONAL LITERACIES AS PART OF VOCATIONAL KNOWING IN UPPER SECONDARY APPRENTICESHIP HEALTH AND SOCIAL CARE EDUCATION

Enni Paul[*]

Abstract: In the chapter, upper secondary school apprenticeship students' opportunities to participate in vocational literacies during their workplace-based learning is explored. The students, who study in the Health and Social care programme in two different schools, were observed at their workplaces. The data material consists of fieldnotes from the observations, photographs of textual artifacts, copies of school assignments written during the workplace-based learning and interviews with students, their teachers and supervisors. The theoretical framework is guided by concepts developed within the field of New literacy studies. The results point to how vocational literacies are an aspect of vocational knowing, but that access to participate in central literacies is limited during the workplace-based learning for some of the students. Furthermore, the results indicate that opportunities to participate in vocational literacies during workplace-based learning is not discussed by the school and the workplaces.
Keywords: vocational literacies, upper secondary school, apprenticeship education, Health and Social care programme.

*   Correspondence: enni.paul@specped.su.se

1.INTRODUCTION

This chapter describes Swedish upper secondary apprenticeship students' participation in situated literacies during their workplace-based learning in the Health and Social Care programme. The chapter is based on my PhD-thesis (Paul, 2017).

In Sweden, vocational education has been formally integrated within the upper secondary school system since the 1970's (Lundahl, 2008), involving some on-the-job training depending of the vocational programme and curriculum (Wärvik & Lindberg 2017). From the 1970's until the current curriculum Gy2011, five trials with apprenticeship education have taken place. The first four trials had slight to modest success. In the fifth trial (during the period of 2008–2011) a larger number of students attended. It is this fifth trial that is explored in this chapter. The experiences from the fifth trial contributed to the apprenticeship education becoming a permanent track in 2011. Within both the trial and the now permanent upper secondary VET half of the educational time is workplace-based, compared to a minimum of approximately 14 percent in the school-based VET-programmes (CEDEFOP, 2019). The Health and Social Care programme is a broad educational programme directed towards two different but intertwined sectors: health care and social work (cf. Österlind, 2008). Teachers and students in this study talk about the assistant nurse as the vocational title they will acquire after completing the education, even though no particular goal in terms of a work title is mentioned in the curriculum. However, after finishing upper secondary VET, the apprenticeship students are expected to cope with literacies embedded within work tasks when entering employment within health and social care work as assistant nurses or nurse assistants. But litera-

cies are more often perceived as belonging to the area of general subjects, instead of being a part of vocational knowing and vocational subjects (Karlsson, 2006; Lindberg, 2003). Therefore, literacies as an integral part of vocational knowing tend to be invisible for teachers, workplace supervisors and students (Edwards, Minty & Miller, 2013; Smith et. al., 2008). At the same time, working life has become increasingly textualized (Belfiore, et al 2004; Karlsson & Strand, 2012; Scheeres, 2007). In other words, many work tasks today involve interaction with texts (Karlsson 2006, Lindberg 2007). An example of this is how work tasks that used to be oral or involve tacit dimensions of knowing now require reading and writing. This is a consequence of processes such as standardization, "just-in-time" production, and quality control systems which lead to increased demands on documentation and reporting (Gee, Hull, Lankshear 1996, Karlsson 2014, Lindberg 2007). In this chapter, the literacies that apprenticeship students in the Health and Social Care Programme gain access to during their workplace-based learning are explored and discussed in relation to their opportunities to participate in future workplace literacies in the area of health and social care.

1.1 HEALTH AND SOCIAL CARE AS TEXTUALIZED WORK

Structural changes and technological development have altered the ways of communication within care work due to regulation, privatization and digitalization (Karlsson & Nikolaidou, 2012). All of these aspects contribute to textualization of workplaces, leading to increased demands on documentation. The documentation practices are connected with development of new genres such as checklists and standardization of language. Documentation has become a crucial work task in both health care and

social work regulated in different laws (Alsterdal, 2002). In several reports, health care and social work documentation is critiqued (IVO, 2014; Länsstyrelsens tillsynsnämnd, 2008, 2010). These reports illuminate that the health and social care staffs' knowing of what and how to document is limited. In previous research, it is also indicated that work tasks in social and health care that are linked to reading and writing, as administration and technology are seen as prestigious tasks (Alsterdal, 2002).

1.2 LITERACIES IN VOCATIONAL EDUCATION

As previously stated, literacies embedded in vocational tasks are often invisible for teachers, supervisors and students alike (Edwards, Minty & Miller, 2013; Smith et. al., 2008). At the same time, vocational students participate in many different literacy practices involving a large amount of texts although different purposes and contexts of these literacy practices are seldom illuminated for the students (Edwards, Minty & Miller, 2013; Smith et. al., 2008). Additionally, development of reading and writing strategies are rarely provided for the students (Eriksson Gustavsson, 2002; Olofsson, 2008). There is also a gap between what kind of literacies the students are given the opportunity to participate in during their vocational education compared to the literacy demands at their future workplaces (Berglund, 2009; Göransson, 2004; Nikolaidou, 2011). For instance; apprenticeship students gain limited access to crucial tasks at the workplace especially when they involve textual features (Kristmansson, 2016; cf Arkenback Sundström 2017). Thus, vocational students are potentially hindered from participation in work tasks involving literacies, and left to cope with vocational tasks involving literacies on their own.

2. LITERACIES AS SITUATED IN SOCIAL PRACTICES: A THEORETICAL FRAMEWORK

In this chapter, literacies are seen as situated in social practices (Barton & Hamilton, 2000; Ivanic et al, 2009; Street 1993/2000). To describe activities in a situation revolving around texts of some sort the concept of literacy events is used (Heath, 1983; Barton & Hamilton, 2000). These literacy events are manifestations of literacy practices, i.e. culturally formed customs of using written language related to how people in a particular context create and make meaning of literacy (Barton and Hamilton, 2000). Literacy practices contain values and norms, social relationships and traditions (Barton and Hamilton, 2000). Additionally, Lave & Wenger's (1991/1997) theory of legitimate peripheral participation is drawn upon to explain the students' movement from a peripheral position towards increasingly central participation in work tasks during their workplace-based learning in combination with Billett's (2001, 2009) concept of the workplace curriculum which allows a focus on how participation is organized in the workplace. Both Lave and Wenger (1991/1997) and Billett (2001, 2009) emphasize the tasks learners are afforded in the workplace and how they participate in these tasks.

3.METHODS

In the case study of literacies in upper secondary apprenticeship VET in Health and Social care programme the data material is of an ethnographic character. Students in their third and final year and vocational teachers from two schools participate in the study, as well as the students' supervisors. At one school

the students conducted their workplace-based learning at an elderly care home, at the other the students were at a hospital. The material consists of field notes from participant observation of vocational students during their workplace-based learning, transcribed interviews with students, teachers and supervisors, and a collection of textual artefacts (school assignments written in relation to the students' workplace-based learning, texts in the work domain and photographs of texts at the workplaces).

Through thematic content analysis (Braun & Clarke, 2006) and by modifying a framework originally developed by Ivanič et al (2009), literacy practices that the students participate in have been analyzed.

4.RESULTS

4.1 LITERACIES STUDENTS GAIN ACCESS TO DURING THEIR WORKPLACE-BASED LEARNING

The literacies app students are able to access during workplace-based learning are connected to the particular type of workplace in which they are placed for instance an elderly care home or a hospital. The legal frameworks which govern the use of texts within each work site also impact what students access. It is also tied to the workplace culture, local differences at different wards as well as how each school organizes the workplace-based learning part.

At the elderly care home, there were seven different kind of work tasks containing literacies in which the students participated. These were planning tasks, nursing tasks, household tasks, medical-technical tasks, logistic tasks, risk management tasks and information transmission tasks at the end of the day. In the

hospital, all of the above mentioned tasks were present and also an additional task called improvement tasks.

Literacies involved in organizing work involved texts to identify what work tasks were to be conducted during the work shift and to distribute the tasks between the staff as part of the planning of the work shift. These literacy events and practices took place at the start of a shift. Texts used for organizing work at the elderly care home contained lists of daily tasks, the department calendar, the whiteboard, the schedule of those who work and the week's activity. In contrast the digital journal and the work notes were the midpoint around which the activity of organizing the work shift took place. Both at the hospital and in the elderly care home students participated in literacies for guidance. This involved consulting texts such as instructions as guidance in how to perform certain work tasks. These texts could be instructional texts for medical devices or different instructions in manuals, but also include the use of texts such as care plans or day plans at the elderly care home, or the digital journal at the hospital, specifying how tasks are to be performed. Both at the hospital and the elderly care home students also participated in literacies for reporting about events taking place during a work shift. Although this is mainly orally transmitted during the work shift, textual tasks involving filling out checklists or writing post-it notes about what had been done, as well as writing work notes for oneself as a reminder to orally transmit the information later to colleagues were written by the students and regular staff alike. Documentation in the care work involved the writing of day logs of the work conducted during the shift in the social or health journal as well as filling out checklists.

4.2 WHAT STUDENTS LACK ACCESS TO REGARDING VOCATIONAL LITERACIES

At both the elderly care home and at the hospital there were literacies the students were hindered opportunities to participate in. There were more restrictions at the elderly care home, regarding if and in that case what assistant nurses were given access in regards to writing or reading documentation. It was only tenure care staff who were permitted to write care plans, day plans, and summarize daily reports. The apprenticeship students did not get access to participate in the writing of these texts. Theses texts are characterized by the writing not being embedded in the daily tasks, but being a separate administrative task. Furthermore, the texts are produced by using a computer as a tool meaning that the writing is tied to the provisions enabled by the digital systems used at the elderly care home for documentation. All of these texts are named and thus are recognizable as belonging to particular workplace genres, these names are from the National Board of Health and Welfare's regulations and/or guidelines. In comparison with "invisible" texts such as checklists, involvement with these texts are talked about as reading and writing, i.e. the texts are visible. To write these texts the care worker has to choose among options concerning the content and expressions. The writer has to rearticulate oral information (such as from different types of meetings) or notes written by other members of the staff (compilation of the daily notes). Writing of these texts entail other types of knowing than the previously mentioned checklists where one just has to put a signature in a particular box. Instead the tasks involve having to use one's own judgment regarding language choices. Writing of digital texts appears as

high-status as only the tenure staff are allowed to write these texts. Thus, the students at the elderly care home who do not get access to participate in these literacy practices, are rather positioned as temporary care workers than as learners. Other assistant nursing tasks are tasks that the students work independently on but the workplaces lack an idea regarding that students should be educated in writing of care plans or writing of digital documentation. Therefore, the workplace curriculum seems to be focused on transforming the student into a skilled temporary staff member rather than tenured care workers. Providing access to workplace literacies is not considered as a topic of discussion by the school and workplace.

In contrast to the elderly care home, the opportunities at the hospital to partake in documentation in the digital patient record or making orders in the digital system depended on local conditions at each hospital ward and on the local supervisors' initiatives. To be able to access the electronic journal system and the hospital's other web-based programs was conditional to time, both in terms of access to direct supervision as well in regards of opportunities to familiarize oneself with the system so that the tasks become more routine-like. It was also connected to routines of the local ward, such as if a student was provided with a log-in to the digital systems. Access to time to partake together with a supervisor doing tasks involving literacy was limited. Consequently, the apprenticeship students seldom became adept in the use of the digital systems in a manner where they were able to use them autonomously. Hindrances for learning were created due to the lack of time as well as lack of login information.

5. DISCUSSION

To be able to participate in a proficient way in crucial work tasks (Lave & Wenger, 1991) at the workplace, students need to know how to use texts as tools while completing these tasks (Lindberg, 2003a). It means that students have to know how to use written instructions that are general in a specific situation; thus, having to interpret and translate them to the particular circumstance at hand, and on the basis of their vocational judgement make decisions that go beyond what is written in text (Lindberg 2003a). The results in this chapter corroborate that the apprenticeship students use texts in this way, where they for instance adapt general instructions to a particular situation. The analysis also illustrates how when writing care plans or patient journals, the staff have to pick expressions consistent with ethical guidelines while simultaneously having to be informative enough to contribute to continuity in the care work.

In order to be prepared to meet the work requirements in the future in both health care and social work, the apprenticeship students have to be provided opportunities to participate in literacies used in both these areas. Accordingly, students have to be afforded opportunities to learn how to read and write texts that are important for work tasks at the workplaces. Thus, compensatory education in school is crucial since the apprenticeship students do not always get access to producing central texts at the workplace thus not being made aware of tensions in what kind of formulations to choose. Because of how apprenticeship education is organized, when only the vocational subjects are allocated to the workplace, there is a lack of time teaching vocational subjects at school. Thus, tensions arise regarding how students actually are being prepared for textualized work. This question

is furthermore accentuated as some students were not provided opportunities to participate in the writing of central texts at their workplaces. Although the schools offer teaching that is compensatory, for instance when students get school assignments in the writing of care plans that they do not get access to at their workplaces, it is questionable if these few occasions of practice within a school context will provide the students with enough practice in order to develop vocational judgement. In school, the writing of care plans or documentation is conducted within a literacy practice of assessment, with the teacher being the reader of the text (cf. Blåsjö, 2010; Mikulecky, 1984). In the work domain, the readers of the care plan or notes in the digital journal are colleagues, relatives and possibly the patients themselves. Furthermore, writing of these texts at the workplace are done in particular digital systems structuring choices, whereas the texts in the school domain are written in standard word processing programs given other kind of structure for choices. At the workplace, there is a more limited time-frame for the writing, which is not the case in school. Potentially, the school tasks provide a basis for collective discussion of the texts, for instance in the choice of expressions which could help develop vocational judgment by talking about the writing. This would provide a crucial learning opportunity to the professionalization of care documentation, since talking about formulation in care plans or similar texts does not take place in the workplace domain (Karlsson & Nikolaidou, 2012). Furthermore, texts that are invisible at work are also invisible in school. Thus, these "invisible" texts are not discussed in school. Added to this there were no examples of school assignments where the complexity of the writing of care or health journals were lifted. The study reveals that apprenticeship students' possibilities to participate in workplace literacies was not a sub-

ject for discussion between the school teachers and the workplace representatives, and the workplaces lacked an explicit and joint workplace curriculum for how to give students access to the workplace literacies.

The chapter has illuminated differences between what literacies students face in two of the sectors that the Health and Social Care program addresses: health care and social care. Apprenticeship students at the elderly care home were not given access to writing of the workplaces' central genres. Apprenticeship students at the hospital were more readily given opportunities to participate in writing of the central texts, although this differed depending on the local ward and individual supervisors. Also, how the two different schools organized the workplace-based learning had consequences for what students gain access to in regards to participating in workplace literacies. For instance, if students rotate between different sectors, the length of time students spent at workplaces and if they have one or multiple assignments will also affect the access to these literacies. Thus, equal opportunities for learning in apprenticeship education can be questioned, since students are provided differing opportunities to engage in literacy practices in health and social care during their workplace-based learning.

REFERENCES

Alsterdal, L. (2001/2002). *Hertig av ovisshet – aspekter på yrkeskunnande.* (Doctoral diss., Stockholm: Kungliga tekniska högskolan).

Arkenback-Sundström (2017). *Matematik? – nej det handlar bara om sunt förnuft och rätt attityd. En studie av matematikinnehållande aktiviteter i lärlingsvux inom detaljhandeln.* (Licentiate thesis, Göteborgs universitet: Institutionen för pedagogik och specialpedagogik).

Barton, D. & Hamilton, M. (2000). Literacy Practices. I D. Barton, M. Hamilton, R. Ivanič (eds.), *Situated literacies: Theorising reading and writing in context.* London: Routledge.

Belfiore, M., Defoe, T., Folinsbee, S., Hunter, J. & Jackson, N. (2004). *Reading Work: Literacies in the new workplace.* New Jersey: Lawrence Erlbaum Associates.

Berglund, I. (2009). *Byggarbetsplatsen som skola – eller skolan som byggarbetsplats? En studie av byggnadsarbetares yrkesutbildning* (Doctoral diss., Stockholm university, Institutionen för didaktik och pedagogiskt arbete).

Billett, S. (2001). *Learning in the Workplace: Strategies for Effective Practice.* Crows Nest: Allen & Unwin.

Billett, S. (2006). Constituting the workplace curriculum. *Journal of curriculum studies, 38*(1), 31–48.

Blåsjö, M. (2010) *Skrivteori och skrivforskning: en forskningsöversikt.* Stockholm: Institutionen för nordiska språk.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology 3*(2). 77–101.

CEDEFOP (2019). *Flash thematic country review on apprenticeships Sweden.* Luxemburg: Publications office. Thematic country reviews.

Edwards, R., Minty, S. & Miller, K. (2013) The Literacy practices for assessment in the vocational curriculum – the case of Hopitality. *Journal of Vocational Education and Training, 65*(2), 220–235.

Eriksson Gustavsson, A-L. (2002). *Att hantera läskrav i arbetet. Om industriarbetare med läs- och skrivsvårigheter* (Doctoral diss., Linköpings universitet, Institutionen för beteendevetenskap).

Göransson, A-L. (2004). *Brandvägg: Ord och handling i en yrkesutbildning* (Doctoral diss., Malmö högskola, Lärarutbildningen).

Gee, J.P., Hull, G. & Lankshear, C. (1996) *The new work order: Behind the language of the new capitalism.* Boulder: Westview Press.

Heath, S. B. (1983). *Ways with words. Language, Life and Work in Communities and Classrooms.* Cambridge. Cambridge University Press.

Inspektionen för vård och omsorg (2015). *Tillsynsrapport. de viktigaste iakttagelserna inom tillsyn och tillståndsprövning verksamhetsåret 2014.* IVO 2015-62.

Ivanič, R, Edwards, R., Barton, D., Martin-Jones, M., Fowler, Z., Smith, J. (2009). *Improving Learning in College. Rethinking literacies across the curriculum.* London: Routledge.

Karlsson, A.-M. (2006). *En arbetsdag i skriftsamhället. Ett etnografiskt perspektiv på skriftanvändning i vanliga yrken.* Stockholm: Språkrådet och Nordstedts.

Karlsson, A.-M. (2014). Evaluering för alla? Eller: Den farliga skriften. i Karlsson, A.-M. & Makkonen-Craig, H. (eds.), *Analysing text AND talk. Att analysera texter OCH samtal.* FUMS Rapport nr 223. Institutionen för nordiska språk, Uppsala universitet.

Karlsson, A.-M. & Nikolaidou, Z. (2012). Vardagskunskapen, arbetet och lagen. Om skriftpraktiker och yrkesidentiteter i äldreomsorgen. *Att läsa och skriva. Två vågor av skriftbruk i Norden 1800–2000.* , 235–251.

Karlsson, A-M. & Strand, H. (2012). Text I verksamhet: mot en samlad förståelse. *Språk & Stil, 22*(1), 110–134.

Kristmansson, P. (2016). *Gymnasial lärlingsutbildning på Handels- och administrationsprogrammet: en studie av lärlingsutbildningens förutsättningar och utvecklingen av yrkeskunnande.* (Doctoral diss., Umeå university: Institutionen för tillämpad utbildningsvetenskap).

Lave, J. & Wenger, E. (1991/1997). *Situated Learning. Legitimate Peripheral Participation.* Cambridge: Cambridge University Press.

Lindberg, V. (2003). *Yrkesutbildning i omvandling: en studie av lärandepraktiker och kunskapstransformationer* (Doctoral diss., Lärarhögskolan i Stockholm, Institutionen för samhälle, kultur och lärande). Stockholm: HLS Förlag.

Lindberg, V. (2007). *Skriftspråklighet inom yrkesutbildning och arbetsliv: en kunskapsöversikt.* (Skolverket) Stockholm: Skolverket.

Lundahl, L. (2008). Skilda framtidsvägar: Perspektiv på det tidiga 2000-talets gymnasiereform. *Utbildning och demokrati. 17*(1), 29–51.

Mikulecky, L. (1984). Preparing Students for Workplace Literacy Demands. *Journal of Reading, 28*(3), 253–257.

Nikolaidou, Z. (2011). The use of Activity Theory in literacy research: Working and developing a professional portfolio and the interaction of the two activities. *Literacy and Numeracy Studies: An international journal in the education and training of adults,* 19(1), 3–18.

Olofsson, H. (2011). *Skriftbruk i fordonsverkstaden. En studie av läs- och skriv-strategier i mötet med arbetslivets texter.* (Licentiate thesis, Stockholm university, Specialpedagogiska institutionen).

Scheeres, H. (2007). Talk and Text at Work: Beyond language and literacy skills. *Literacy & Numeracy Studies.* 15(2). 5–18.

Smith, J., Satchwell, C., Edwards, R., Miller, K., Fowler, Z., Gaechter, J., Knowles, J., Phillipson, C. & Rosheen Young. (2008). Literacy practices in the learning careers of childcare students. *Journal of Vocational Education & Training.* 60(4), 363–375.

Street, B.V. (1993/2000). Introduction. The New Literacy Studies. I B. Street (ed.), *Cross-cultural approaches to literacy* (3–21). Cambridge: Cambridge University Press.

Österlind, E. (2008). *Gymnasieskolans projektarbete ur tre perspektiv.* Stockholms universitet: Centrum för studier av skolans kunskapsinnehåll.

Section II:

Classroom interaction, students' participation and teachers' identity

In this section the focus is on vocational learning and identities both from students' and teachers' perspectives. Furthermore, authors in this section bring forward how meaningful is activeness in vocational learning processes. The section starts with Janne Kontio and Stig-Börje Asplund's article "Collective and individual use of smartphones: Embodied interaction in Swedish upper secondary Building and construction and Hairdresser educations". Their study aimed at describing collective and individual features of mobile usage and the embodied interactional processes vocational students engage in when using their smartphones and how these processes relate to shaping of professional identity. The chapter by Katarina Lagercrantz All "Adult education in health and social care –Vocational education as a way into society" explores vocational students' experiences of their education, with a focus on what competence and knowledge students describe as necessary in their future work in health and social care. Eva Eliasson examines in her chapter "Conflicts and tensions in the constructions of vocational teacher identities" how teacher identities were negotiated and constructed by vocational student teachers in their digital logbooks during their last internship period. The last chapter in this section by Sofia Antera titled "VET trainers in the market of adult education" focuses on professional competence in the literature concerning vocational teachers' professional practice.

Collective and individual use of smartphones: Embodied interaction in Swedish upper secondary Building and construction and Hairdresser educations

Janne Kontio[*] & Stig-Börje Asplund

Abstract: This chapter has a special focus on the use of smartphones among students in two Swedish study programs in upper secondary school; one traditionally male education, the Building and construction program; and one traditionally female education, the Hairdresser program. The results derive from a larger video-ethnographic project with the aim to explore the role of smartphone usage in upper secondary classrooms in Sweden.[10] In this project we have used new and innovative methods regarding how students' digital activities in the classroom could be captured and studied.

While the smartphones were used individually to a notably higher extent by the students in the hairdressing classroom, there were significantly more collective features in the smartphone usage of the students in the building and construction class. In the latter, the students showed up what they did on their smartphones for several of their classmates at the same time, and

---

*   Correspondence: janne.kontio@edu.su.se

we also witnessed situations where the students used each other's cell phones; interactional traits that we did not witness at all in the studied hairdressing classes.

In this chapter, we study what these collective and individual features of mobile usage look like, and what their interactional purposes are. More precisely, the purpose is to study the embodied interactional processes the students engage in when using their smartphones and how these processes relate to their shaping of a professional identity.

Keywords: Embodied interaction, vocational education, vocational identity

1. INTRODUCTION

The role of embodiment in communication has been increasingly examined in the last few decades, within a wide range of different settings (see, among many others; Deppermann, 2013; Goodwin, 2000a,b; Hazel et al., 2014a; Kendon, 2004; Mondada, 2014; Scollon and Scollon, 2004; Stivers and Sidnell, 2005; Streeck et al., 2011; Nevile et al., 2014a). The turn to the body in social sciences has intensified the gaze of qualitative research on bodily matters and embodied relations and made the body a significant object of reflection (Jewitt et al, 2017). It has thus become clear that the production of shared meaning in social interaction requires to be situated within a more complex context; verbal exchanges, but also the physical environment in which they operate and the wide range of bodily features people use in order to communicate. In other words, all "human interaction is fundamentally embodied, and as such any research into human social interaction is research into embodied interaction" (Hazel et al., 2014b:3). Therefore, Goodwin notes, the verbal

side of interaction has been increasingly integrated with "concurrently relevant semiotic fields" (Goodwin, 2000a:1499) such as gaze, posture, body orientation, and object use, in an attempt to achieve an approach, capable of describing the complexity of naturally-occurring interaction.

Moreover, this chapter will have a focus on smartphone use by students in Swedish upper secondary vocational education. It has been shown in recent studies that in Sweden virtually every upper secondary student (98%) has access to a smartphone (Alexanderson & Davidsson, 2014) and that the phones are used more or less openly during lessons (Asplund et al., 2018; Sahlström et al., 2015). However, knowledge about the role of the smartphones in the classroom and the way in which students interact with them is still relatively limited, especially in regards to vocational education. One of the purposes of this chapter is to fill a very specific and acute gap; in addition to the few studies on youth and digitization, smartphones and other digital tools, it is very clear that the field of research concerning these issues in regards to vocational education and training is close to non-existent (however, see Asplund & Kontio, submitted), even more so when it comes to studies of embodied aspects of interaction.

The data for this study draws on a larger study of Swedish upper-secondary students' use of smartphones. When assigned to the project, we chose to study two traditionally gender-coded vocational programs. One of them being the male coded building and construction program, and the other being the female coded hairdresser program. However, when looking closer at the interaction in these classes, another feature stood out as being more prevalent than that of gender, namely that of collectiveness and individuality. At first it came to us as observing research-

ers, merely as a hint, but when trying to unravel how this feature of interaction actually was produced and what it entailed, especially in relation to smartphone use, then the differences between the two study programs stood out as quite clear contrasts. These features are also heavily stressed in the policy documents (Curriculum for the compulsory school, preschool class and the leisure-time centre, 2011 – the authors' emphasis) related to the two study programs:

BUILDING AND CONSTRUCTION

The education should also provide knowledge of the industry's various professions and work processes, as well as entrepreneurship, which provides a good basis for *collaboration in the workplace* and with customers.

There are is a great need for communication skills and understanding for other people and other occupational groups *in workplace collaboration* and in customer relations. The students should therefore, in all subjects, work on developing their language and have the opportunity to meet and discuss different perspectives on people's living conditions in society.

The workplace-based learning should contribute to the students developing professional knowledge and a professional identity, and understand the professional culture and *become part of the professional community at a workplace.*

HAIR DRESSER

In all craft trades, *personal character,* technical skill, quality and design are central.

The education should develop the students' ability to analyze and evaluate *one's own work* and learning and the ability to independently choose, for example, materials and techniques.

Regardless of whether you are employed or run your own business, initiative, ideas, independence, personal *responsibility, cooperation and a personal driving force* are required.

We can clearly note the emphasis on collaboration and the goals of becoming a team player, a part of a professional culture of working in a community with colleagues in the policy documents regarding the building and construction program. However, in the documents governing the hairdressers program words (italicized above) linked to individual traits are much more prevalent. This is obviously related to the very nature of the different professions; where builders are expected to work with others in teams, being reliant on other occupations to get the larger project at hand finished; whereas hairdressers to a larger extent work on their own and rely on their own experience and expertice to fulfill their duties. It is in light of this, not a surprise that these features also appear in policy documents and actual school practice, the interesting aspect here is whether and if so how they ripple down into actual student interaction.

Building on these premises, the present chapter explores the impact of embodied semiotic resources (especially gaze, object use and body orientation) on participation in smartphone interaction during classes of vocational education. The examples analysed here have been selected on the basis of the fact that similar specific activities, i.e. smartphone use in class, are performed in all sequences.

We have used a multimodal perspective to provide fine-grained descriptions of practices. Multimodality, Jewitt et al. note, is built on the principles that meaning making is achieved in interaction using different semiotic resources, each of which offers distinct possibilities and restraints, and in order to study meaning, we need to attend to all of these resources (Jewitt et al., 2016). Multimodality, in this study, enabled attention to bodily modes of position, posture, gaze, and movement alongside speech, as well as the use of smartphones. A combination of multimodality and ethnography approaches is powerful, Flewitt notes, as 'a multimodal perspective captures something of the complexity of the studied field, and the ethnographic data collection and interpretation to help to situate that complexity in particular social, cultural and historical contexts' (Flewitt, 2011:302).

Building on a micro-analytical approach largely based on Multimodal Conversation Analysis (Deppermann, 2013; Hazel et al., 2014), we will depict how participation is the result of the combined efforts of participants' abilities to articulate smartphone use, gestures, gaze, body posture and talk within joint activities in classroom contexts. The main research questions are: (a) How is engagement and disengagement in participation negotiated, displayed and made recognizable multimodally in relation to smartphone use in VET?; (b) In particular, what is the role of the smartphone in the negotiation of participation during the interaction?

The following sections will provide an overview of how participation has been described as a situated achievement (section 2.1), and how the ecology of smartphones (i.e. the positioning of the objects and other physical resources within the

environment, in relation to the interactants; see Gibson, 1979; Hindmarsh and Heath, 2003; Nevile et al., 2014b) applies an influence on the organisation of social interaction, which is the specific focus of this article (2.2). This is followed by a section (2.3) on how we collected our data and further insights into the participants and their everyday lives in school. This is then followed by the analyses of five examples drawn from the data collected (3). The chapter is then concluded with a discussion (4) regarding the results of these studies and some suggestions for further research.

2. THEORY AND METHODS

2.1 MULTIMODAL STUDIES OF PARTICIPATION AS SITUATED ACHIEVEMENTS

Although being one of the most common things one does in life, to take part in a conversation, research has shown, requires many delicate, but complex, coordinations among the participants, who need to adjust to and actively negotiate constantly shifting participation frameworks (Goffman, 1981). Goffman's conceptualisation of participation opens up the possibility for different encounters to involve different participation frameworks, depending on their goals, their participants and the settings surrounding them. Similarly, a single encounter can switch through different participation formats, depending on how it unfolds locally. Participation is therefore a locally negotiated and co-constructed achievement, which can be shaped in numerous ways (cf. Goodwin and Goodwin, 2004), engaging a wide range of multimodal resources.

These multimodal resources play a crucial role in outlining the

different participation frameworks which may or may not take place in an interaction. For example, displays of engagement can be conveyed through gaze (see Goodwin, 1980; Heath, 1986; Rossano, 2012) and body position (Schegloff, 1998); mutual orientation can be achieved through gesture (Goodwin, 1986; Goodwin & Goodwin, 1986) or through an interplay of gaze, gesture and posture (Mondada, 2009; 2012); and turn-taking is influenced by the multimodal behaviour of the participants (Mondada, 2007). In a more general sense, participating in a social interaction requires the interplay of different semiotic modalities (see Goodwin, 2007; Kendon, 1967, 1990; Heath, 1986; Kidwell and Zimmerman, 2007). Much work still needs to be done in order to fully understand the links between participation, coordination and multimodality in vocational education and training (VET). Research literature on this subject is still uncommon and fairly scattered. Moreover, one common drawback in the current literature looking at classroom interaction as a multimodal activity is that the embodied dimensions often seem to be regarded as supplementary to talk, rather than integrated with it. The use of objects in interaction has been particularly neglected in classroom interaction research (Enfield, 2005), despite it being a very common and recurrent activity in these encounters, not least within VET where the socio-culturally situated practices require the mobilization of multimodal resources from participants to manage multifaceted participation.

In particular, mobilization of interaction with objects, which is the specific focus of this study, has been seen to influence the organisation of participation in a such diverse contexts as workplace meetings (Asmuß and Svennevig, 2009; Deppermann et al., 2010), planning of professional activities, such as plumb-

ing (Sakai et al., 2014) and architectural design work (Mondada, 2012a). In all these contexts, a wide range of objects, such as tools, notes, maps, and drawings are actively employed and negotiated by the participants in order to perform participatory meaningful actions.

A multimodal framework provides the theoretical and methodological tools to take a more complete approach to classroom interaction, where "linguistic and embodied resources [are treated] in principle in the same way, without prioritizing a priori one type of resource over other ones"(Mondada, 2014:139–140). This is achieved here through another central principle, i.e. that human interaction must be regarded as "a set of different semiotic fields organized as layers of diverse resources", each of which can build a next action, a proposal for how the future of the interaction will be organized. Thus the participants in this study build their actions by combining diverse multimodal resources to perform simultaneous actions (Goodwin, 2013:21). As underlined by Mondada (2014:138), such 'layers of diverse resources' need to be observed as combined with each other, thus overcoming the dichotomy between "verbal" and "non-verbal" communication, which organizes human conduct and communication in a bipartite way, opposing language, on the one hand, to other types of conduct, on the other. [. . .]

Furthermore, the negative particle in 'non'-verbal seems to imply reference to a body of resources which are not related to the verbal. As stated by Kendon, 'it makes no sense to speak of 'verbal communication' and 'nonverbal communication.' There is only communication' (1972:443). Additionally, this needs to be completed with a focus also on the interactional ecology of objects. The data analyses will show how such aspects can be

integrated in a multimodal investigation of vocational classroom interaction.

2.2 SMARTPHONES IN EDUCATION IN THE NORDIC COUNTRIES

As Nordic researchers have been able to depict in previous studies (Olin-Scheller & Tanner, 2015; Sahlström et.al., 2015; Tanner et al., 2017), Nordic upper-secondary students mostly use their smartphones more or less openly in the naturally occurring pauses, in the so-called "in-between spaces" (Olin-Scheller & Tanner, 2015), that happen for instance when students move between classrooms, or when they are done with one assignment and wait for some new teacher-initiated activity, but also in occasions where the students use the phone during a teacher's instruction, during movie-viewings, and in situations when students are expected to work on their assignments, either by themselves or in groups.

And although today's smartphones can be used for almost the same purposes as computers and tablets, more or less related to education, the public debate has primarily viewed smartphone use as a disturbance (Ott, 2017; Beland & Murphy, 2015; Kuznekoff & Titsworth, 2013; Wei, Wang & Klausner, 2012). In a Swedish context, Olin-Scheller and Tanner (2015) have presented a study which shows that smartphones do not primarily appear as a disturbance in the classroom, but rather they are used during the breaks or "gaps" which arise during the course of the lesson when, for example, the intensity subsides or when the student is waiting for new instructions. The smartphone can then be understood as a way for the student to take the initiative and

create an opportunity to participate in different communicative contexts which exceed the participation opportunities offered by the teaching (Sahlström, Tanner & Valasmo, forthcoming; Tanner et al., 2017). Asplund et al (2018) conclude that it is evident that digital tools in general, and smartphones in particular, do change the role of the teacher and the school, and that the students' smartphone use places new or altered demands on students as well as teachers. However, knowledge about the role of smartphones in the classroom and how they interact with teaching is still relatively limited, especially in relation to the teaching content in question, and in particular in relation to vocational teaching and learning.

2.3 METHODS

In this project we have used new and innovative methods regarding how students' digital activities in the classroom could be captured and studied. Previous research on youth and smartphones note that it has been difficult to capture not only the fact that the phones are used, but also when they are used, and what students do when they use them (see Pascoe, 2012). Here we have been able to mirror the students' smartphones and synced those recordings with video recordings made with traditional cameras. All in all, the data collection consists of 75 hours of video recorded data.

During our field work, we have studied classes where the teaching of theoretical concepts has been in focus, as well as the classes where practical work has been done inside and outside different workshops and classrooms throughout the school.

The students included in this article come from two mid-Swe-

den upper-secondary school classes of two different vocational education program, i.e. the Building and Construction program and the Hairdresser program. The students are aged 17–18, and the classes consist of 25 and 23 students respectively. All students were informed about the aim and implementation of the study and were asked to participate either in recordings from the teaching lessons or by also allowing the researchers to record their use of smartphones and computers. The students' activities have been documented continuously over a period of one school year, through video recordings with two different perspectives; we have followed and recorded the student's physical interaction in different teaching contexts in school with one camera, and as a second data source, we have used wi-fi technology to mirror and record the student's smartphone screen on a researcher's computer. These two data sources have then been synchronized and compiled into a video that shows the perspectives simultaneously.

3. ANALYSIS

This part of the chapter sets out to describe and analyse the multimodal resources mobilised throughout the development in each sequence, and how they generate different participation frameworks (Goffman, 1981), and entail changes of the interactional space (Mondada, 2009) as well as reconfigurate the participants' engagement – features that would escape a purely verbal analysis. The selected examples that we have chosen to analyze in this chapter are chosen on the common basis that they all revolve around situations where the smartphones are used in class. We start out by mapping the smartphone usage by

the hairdresser students in the hair salon classrooms, with a special focus on how they bodily lean in and out of participation in interaction when also interacting with their smartphones.

3.1 INDIVIDUAL SMARTPHONE USE – HAIRDRESSERS

A recurrent practice among the students in relation to the mobile phones is how the framing of the teaching in itself creates situations of in-between spaces in the students' work. These can be situations where the student needs help with a task but the teacher is busy, or when the student is done with a task and wants to get instructions for the next, or as in the example below; when the student has worked intensively with a test (to put hair on rolls within 45 minutes) and then sits down to await the teacher's evaluation of the result (fig.1). As soon as the student finishes her work, the mobile phone is picked up and when the teacher arrives with an assessment, the phone break ends.

Example 1: Leaning out #1

1. Anna: <u>Ulla</u>

   [Teacher's name]!# ((summons the teacher))
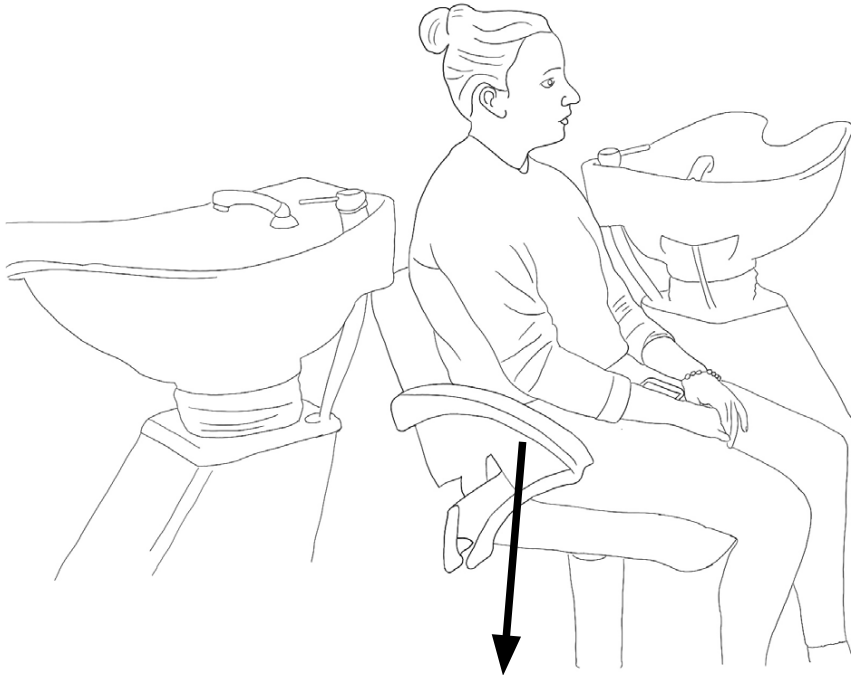
Fig.1

2. Ulla: Jag kommer

   I'm coming

3. Anna: Fyrtiofem minuter (14) <u>Hoooh</u>((andas ut, lutar sig tillbaka

   Forty-five minutes (14) Hoooh ((loudly exhales, leans back

4. och plockar upp sin telefon, läser ett inkommet sms)) # -->

   and picks up her phone, reads an incoming message)) # -->

5. Ulla: ((inspekterar testet, fig.2)) -->

   ((inspects the test, fig.2)) -->
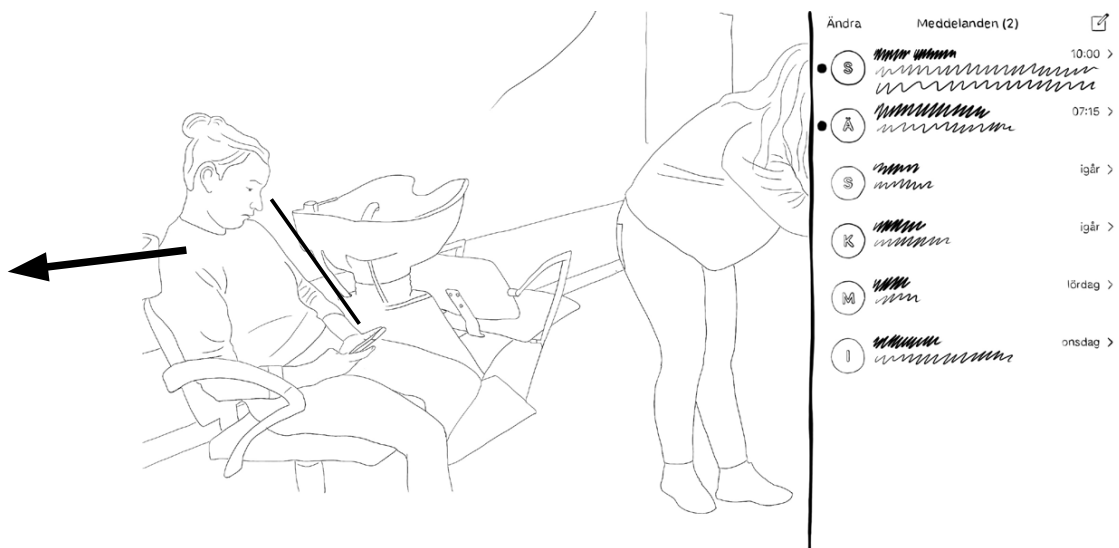
Fig.2

6.   (9)

7.   Ulla: --> <u>Här</u> ((pekar på dockhuvudet))#

     --> <u>Here</u> ((points at the mannequin head))#

Fig.3

8. Anna: --> (3) ((trycker på hemknappen,
    lutar sig fram och lägger

    --> (3) ((pushes the home button,

    leans forward and puts

9. telefonen i sitt knä)) Ja::pp

    the phone in her lap)) Ye::ah

10. Ulla: Du har gjort så ((flyttar tyngdpunkten
    och skjuter höften

    You've done this ((moves her hip from one side

    to the

11. åt sidan))#

    other))#
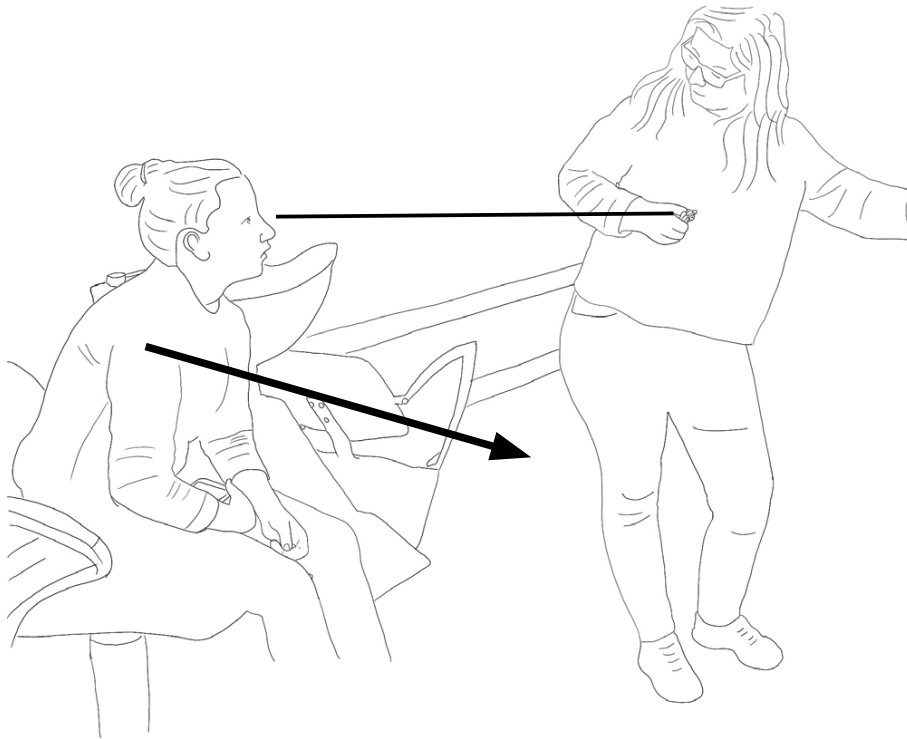
Fig.4

12. Anna: Japp. Helt säkert.

Yeah. For sure.

13. Ulla: Det är, du har blivit trött och så har du (.) lutat dig

That is, you've become tired and then you have (.) tilted

14. (.) du har fått dem riktigt bra, det finns lite

(.) you have gotten them really good, there is some

15. dragningar här och jag tror att du har stått lite

traction here and I think that you have been standing a bit

16. snett så att du är på gränsen till att få dem lite

    askew so that you are on the verge of getting them a bit

17. i oordning här bak (.) så du måste lyfta upp dem

    out of order in the back (.) so you have to lift them up

18. (.) annars är dem riktigt fasta och fina

    (.) other than that they are <u>really</u> firm and nice

19. Anna: On the side too?

    På sidan också?

20. Ulla: Jadå. <u>Bra</u>, <u>riktigt</u> bra. Tar du en rast nu?

    Yeah. <u>Good</u>, <u>really</u> good. Are you gonna take a break?

21. Student: Ja, jag tar rast nu ((lutar sig tillbaka och plockar upp

    Yeah, I'll take a break now ((leans back and picks up the

22. telefonen #, sms:et dyker upp på skärmen igen))

    phone #, the text message appears on the screen again))

Here we see that the sequence starts with the student summoning the teacher for an assessment. The hard, intense work of finishing a full head of hair with rolls in 45 minutes leaves the student exhausted sitting down on a chair next to a washing station. The teacher arrives to the mannequin head and the student informs the teacher that the test has been done in 45 minutes (line 3) before exhaling loudly and falling back into the chair, awaiting her assessment. The teacher leans into the mannequin station and pulls firmly on the rolls while the student finds time to look closer at her phone. In the 45 minutes that have passed since she last looked at the phone she has received a text message which she opens (fig.2). The student initiated in-between space (Olin-Scheller & Tanner, 2015) that has appeared, where the student is taking a micro break, lasts for nine seconds before the teacher starts delivering her assessment (line 7). The student then takes three seconds to close her phone (line 8), leans forward and takes part in the joint attention towards the mannequin head, this is certified with a 'yeah', as in; 'yeah, I am now taking in your assessment of my test'. The teacher gives her an assessment of the test, both bodily and verbally and closes off the interaction by impelling the student to take a break from work (line 20), whereas the student leans back and re-attracts her attention towards the text message on her screen (line 21).

The leaning out of participation, the bodily statement of disengagement in participation is co-constructed here in situ by the participants. The teacher has arranged a school task that has the student occupied for forty miniutes straight, with no real chance of disengaging from the task. Then when the task is finished, the student gets to have an in-between moment, lasting from when the teacher arrives to her station up until the

teacher is ready to deliver her assessment. This takes approximately nine seconds, and in these seconds the student bodily steps out of participation by leaning out from it, putting her smartphone in between her face and whatever the teacher is doing. She is on a break. She swiftly operates the smartphone and finds the text message that she has received some five minutes earlier. Nine seconds later she is called upon by the teacher, in the next three seconds the student pushes the home button on her smartphone, puts the phone in her lap while leaning forward, into participation. These three seconds are seemingly seamlessly intervowen into the student-teacher interaction, and the smartphone seems to have done little to no damage to that interaction, as the teacher quickly continues to deliver her assessment as soon as the two interlock with their gazes (drawn line in fig.4). Participation is locally negotiated, as the Goodwins state (2004), a co-constructed achievement that here is shaped in an agreement that taking a smartphone break from a long period of labor is perfectly fine, it is even impelled by the teachers (line 20). And we would find these moments of kicking-back when done, when waiting for assessments or assistance, very common in class, as illustrated by the two students taking a phone break in the image below:

Example 2: Leaning out #2

Fig. 5

This is in line with what one might expect, considering how these students work in class. They have their own mannequin heads, they rarely work in teams, they have their own customers and assignments that they work on for many hours in the salon classroom. Thus, they take breaks when it fits with their work; when the dye is drying, when one's own task needs assessing or assistance and so on. In these breaks it would be seen as rude to disturb a class mate with whatever you find interesting in your smartphone. This does happen however, but it is a rarity in comparison to the very many occasions this occurs in the building and construction classrooms.

In certain lessons the teacher would arrange a task that requires the students to use their smartphones to solve the assignments. It is in these lessons that we find the students working on task with their smartphones or tablets on task. In the example depicted below, we get to track how the students

approach the task (how would you dye this mannequin head in order to get a blonde result?):

Example 3: Leaning out #3

Fig.6

The students start out by reading the instructions and the question linked to the assignment. They all have their phones ready with the appropriate smartphone application in which they are to write down their answers. They lean in to the mannequin head and jointly discuss what and how to dye the hair, each of them proposing suggestions (fig.6).

Fig.7

Then they lean out of the joint endeavour and gaze into their individual screens and write down a proposal as what to do in order to get the best result (fig.7)
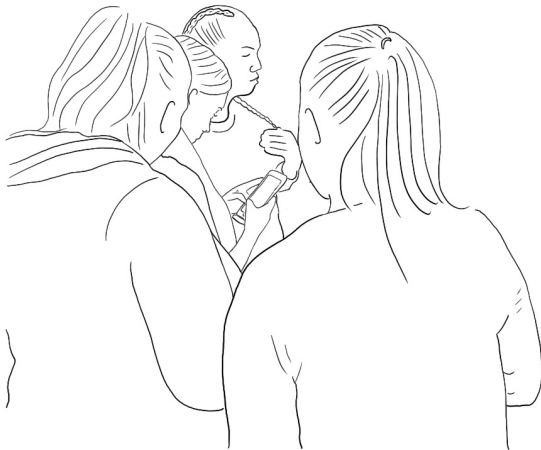
Fig.8

At times they lean in, to see one another's' screens and what their peers are writing, often accompanied by a "what did you write"? In fig.8 above we can note how the student on the left is peeking at what the girl in front of her is writing, while the girl on right,

nearest our camera is peeking at the screen of the girl on her left, before they all conclude their individual inputs into their own phones (fig.9 below) and then resume and move on to the next mannequin head and the assignment attached.

Fig.9

3.2 COLLECTIVE SMARTPHONE USE – BUILDING AND CONSTRUCTION

We have in previous studies (Asplund & Kontio, submitted), identified how students' smartphone use as resources in the building and construction program are heavily linked to the students' construction of a professional identity. In those studies we have, through the theoretical lenses of Sara Ahmed's ideas of happy objects and the Lave & Wenger concept of community of practice, been able to point out how this is done in interaction. We have looked at in more detail how the smartphone is used by the boys as a resource for establishing contact with each other

197

here and now, and through the applications and social media provided by the smartphone, the boys find common areas of interest which they can explore together. These are interests that the teaching in school, by default, cannot compete with, and thus it leads to strengthen an anti-school culture already present in these classrooms. We find that the students' collective use of smartphones are reproducing norms and distinctions that have been found in previous research on traditional male-dominated vocational programs, related to a macho jargon, sexist and foul language use and an resisting school work.

While the smartphones were used individually to a notably higher extent by the students in the hairdressing classroom, there were significantly more collective features in the smartphone usage of the students in the building and construction class. In the latter, the students showed up what they did on their smartphones for several of their classmates at the same time, and we also witnessed situations where the students used each other's cell phones; interactional traits that we did not witness at all in the studied hairdressing classes. The students in the building and construction program have, in line with the hairdresser students, very long lessons. They are often working for many hours in the workshop and they are expected to take breaks whenever it suits their work at hand. Contrary to the hairdressers, however, the building and construction students are not fixed to one classroom. They often need to move through and between a number of buildings to get to certain areas to get specific material or tools. This gives the students plenty of freedom to roam around, as long as they complete the tasks given, but this also gives the students a lot of possibilities to use their phones when moving between areas.

Another difference between the hairdressers and the builders is that the latter rarely work on their own. The tasks most often revolve around working in pairs or groups. They work together when fixing a roof, they work in pairs putting up boards on a wall etc., distributing the tasks among themselves.

Here we adapt a multimodal approach and look closer at how the students multimodally display their engagement in participation in relation to smartphone use. Having video recordings of when the students use their smartphones gives insights into how this is done in situ. The first example (3.4, below) displays a very common collective use of smartphones in these classrooms.

The five students are working on a group assignment where they are expected to come up with a sketch of a town, with a special focus on sustainable development. The students start out by watching a Youtube-film on the subject matter, and then they move on to discuss amongst themselves about what they find most important to find in a future town; recycling, energy, communications etc. In the images below the students have been working for almost ninety minutes straight, they have started to write, draw and cut out a sketch for the final submission. When suddenly it dawns upon one of the students that there has been a release of new (and possibly funny) filters for the Snapchat application. All of the students but one pick up their phones and start messing around with the application and the in-built cameras. One student puts a pair of scissors on his nose, and for some reason this becomes the focus for all the others to capture.

Example 4: Leaning in #1

Fig.10

Fig.11

Fig.12

The students all lean in to participate in the photographing of the scissor covered nose, capturing multiple images, adding filters and then showing their creations to each other, complemented by lots of laughter. If the hairdressers are seen in the extracts above to be leaning out with their smartphones, to bodily underline their dis-engagement from participation, then the building and construction students are doing a lot of bodily work to be able to partake in smartphone interaction; leaning in with their phones to take a shot, leaning in to be a part of the images taken, leaning in to view others' images, leaning in to show the creations made in the smartphone applications.

The next extract revolves around two students; Aron and Liam who are working on putting up boards on a wall. Well hidden behind the wall, they sit for an hour awaiting their teacher's assessment. Finally Aron goes to find the teacher, but he returns

empty handed, as it turns out that the teacher is out on a coffee break. Curious in what occupies the attention of his friend Liam, Aron asks what he is up to:

```
1    Aron: vad gör du #fig13
```
what are you doing #fig13
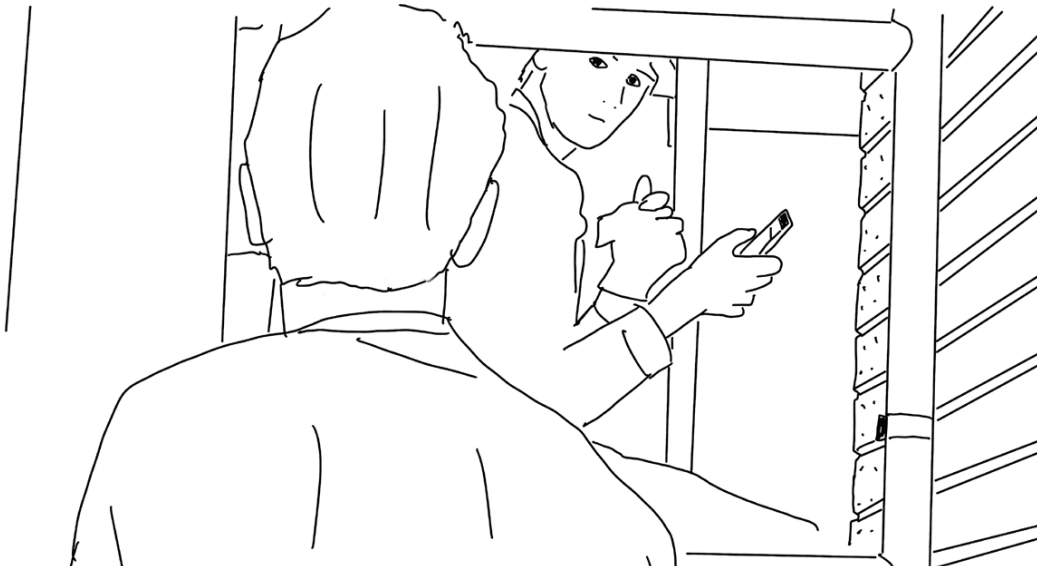
Fig.13
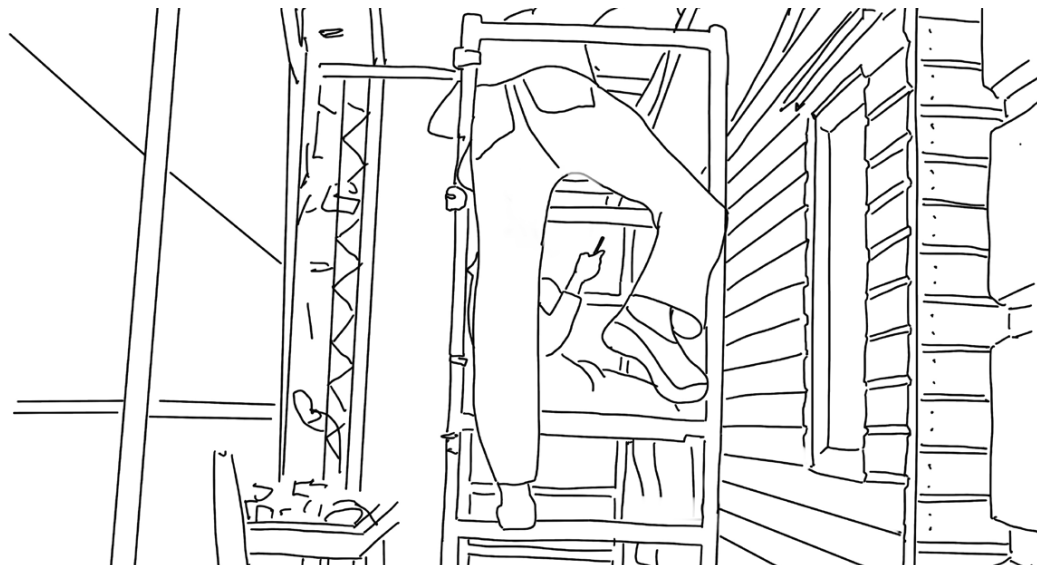
Fig.14

Fig.15

[7–22]

Fig.16

23 Aron: vem äre där?

who's that?

24 Liam: min kusin

my cousine

25 Aron: den dära i Sibylla? ((sätter sig ner bredvid Liam)) hon i

the one in Sibylla? ((sits down next to Liam)) she in

26 Sibylla?

Sibylla?

27 Liam: mm

mm

28 Aron: ä han Kevin oskön eller?#fig17

is he Kevin unlovely or?#fig17

Fig.17

```
29  Liam((types))
30  Aronvilken bild? ((lutar sig fram mot Liam och
    lyfter armen mot
    which picture? ((leans towards Liam and puts
    his arm on
31  hans axel)) den dära då han säger 'no means
    no'? #fig18
    his shoulder)) the one where he says 'no means
    no'? #fig18
```
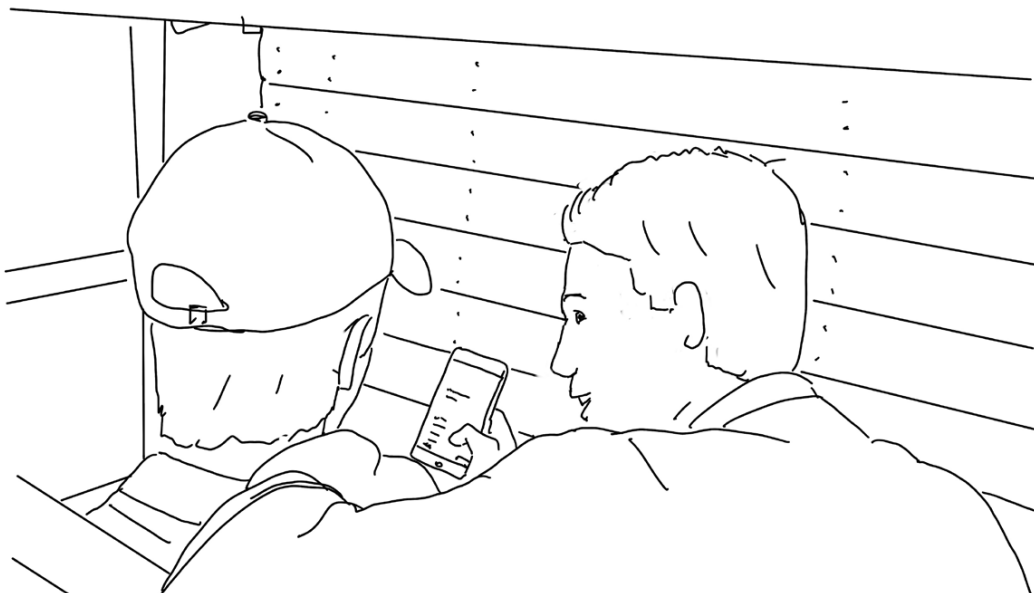

fig.18

```
32  Liamne: j det var han stod med sån hära #fig7
    (.) sån här
    no: it was he stod with one of these #fig7 (.)
    one of these
```
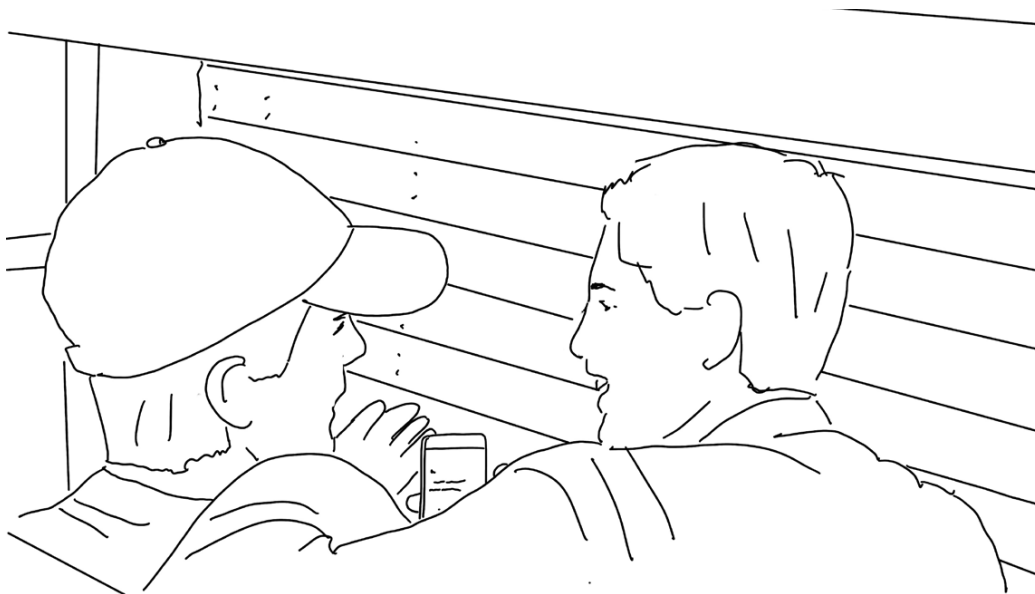
fig.19

33   leksakspistol eller va fan heter dom? (.) nerf
     toy gun or what then hell you call them? (.)
     nerf

34   Aron: ((lutar sig bort från Liam)) ja
     ((leans back from Liam)) yes

35   Liam: åsså typ ska han (x) över skolan
     and like he's about to (x) over the school

36   ((Liam textar vidare, Aron tittar på telefonen
     #fig20 och
     ((Liam continues typing, Aron looks at the
     phone #fig20 and

tittar sedan på Liam så snart Liam textat färdigt
     och postat
     and then at Liam as soon as Liam has finished
     typing and sent

sin text, de tittar sedan på varandra, båda ler
#fig21))

**his message, they loook at each other, both
smile #fig21))**
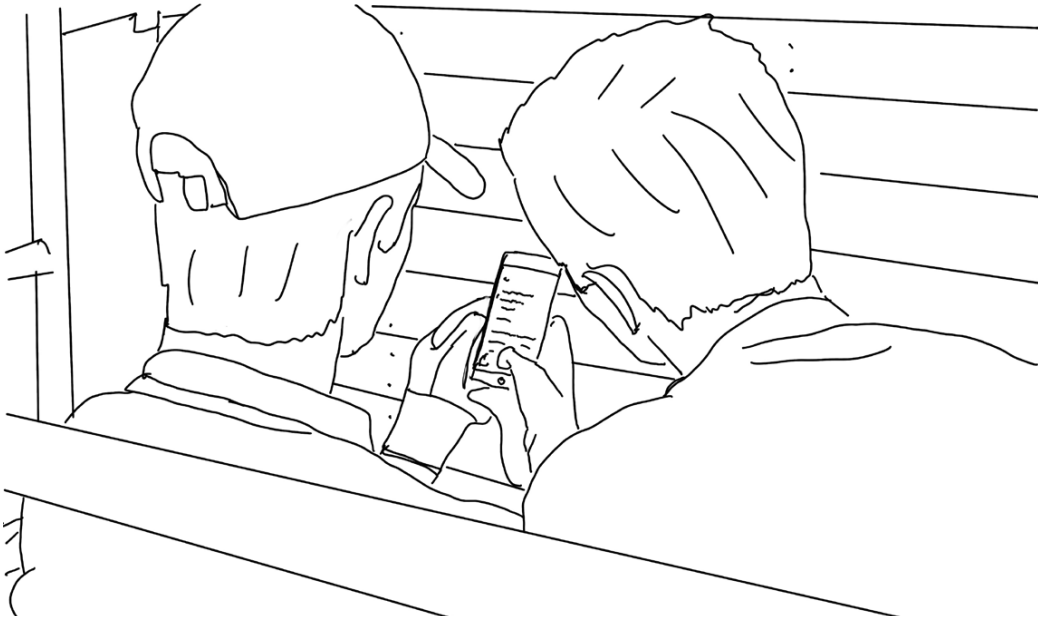
Fig. 20

Fig. 21

The example above begins with Aron coming back to the workplace after he left it to search for the teacher. As soon as he has Liam in sight, he notes that he is occupied with his smartphone, whereupon he asks him what he is doing (line 1). While he tells Liam that he has failed to get hold of the teacher (lines 2–6; omitted in the excerpt), he goes forward to Liam and climbs up to the scaffolding on which Liam sits with his smartphone (figure 14–15). Once up at the scaffolding, he leans forward towards Liam and the smartphone he holds in his hand. For several seconds he stands and follows Liam's activity on the smartphone while exchanging a few words with each other (lines 7–22; omitted in the excerpt). After a few seconds, he then begins to tilt his upper body slowly down towards Liam's smartphone (figure 16). In line 23 he then orients himself towards the conversation Liam is involved in on his phone by asking "who's that?". It turns out that it is Liam's cousin that he is texting and as soon as Liam has affirmed Aron's question, Aron sits down close to Liam. On lines 25–26, 28, 30 and 31, then, Aron directs several questions to Liam through which he marks a will and ambition to get hold of the conversation Liam is involved in on his smartphone. Liam not only answers the questions, but he also keeps his smartphone in a way that makes it possible for Aron to follow the conversation.

In the example, we can see how Aron literally climbs into the smartphone activity in which Liam is engaged. The approach is also done step by step; first by Aron asking a question, then he climbs up to Liam. Then he sets himself in a position where he crouches over Liam to get an overview of the smartphone activity before finally, after having again asked a question, sits down close to Liam in order to be able to follow the conversation he

is involved in more closely. Through his question battery, and through the physical approach (and through the use of several different semiotic resources such as gazes, gestures and speech) Aron shows that he is interested in Liam's activity on the smartphone and he is also treated by an openness to this by Liam. Liam thus gives Aron full transparency in the conversation he is involved in by holding up his smartphone in a way that makes it possible for Aron to see how the conversation between Liam and his cousin develops – word for word – but also by answering Aron's questions and provide information that allows Aron to be able to follow the conversation on the smartphone.

The example thus clearly shows how the smartphone enables the boys to physically approach each other. They sit close to each other, exchange gazes with each other, and the physical contact is reinforced by Aron's arm movement, letting his arm rest on the Liam's shoulder for a while (figure 18–19). This physical closeness is also reinforced by the fact that Aron gets access to Liam's private conversation with his cousine. Through this action, Liam shows that he trusts his classmate; thus they are building a sense of belonging and loyalty among themselves.

4. DISCUSSIONS, CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH

In this chapter, we have studied what collective and individual features of mobile usage look like, and how they come about in actual classroom interaction. The embodied interactional processes the VET students engage in when using their smartphones are seemingly related to their shaping of a professional identity, not least so when considering how the smartphone use

among the students correlate to the wordings of the policy documents that govern the two different study programs. Catchwords like independence, personal responsibility and personal driving force are reflected in the very individual smartphone use among the hairdresser students (see examples 1–3, above), while workplace collaboration seem to be echoed in the vastly more common collective features when it comes to the building and construction students interactions (see examples 4–5, above; Asplund & Kontio, submitted).

These results were enabled through a multimodal approach towards the data collected, where attention was paid to bodily modes of position, posture, gaze, and movement alongside speech, as well as the use of smartphones. The production of shared meaning in the students' social interaction required to be situated within a more complex context than just verbal exchanges, also the physical environment in which they operate and the wide range of bodily features the use in order to communicate, were in focus. By applying a micro-analytical approach largely based on Multimodal Conversation Analysis (Deppermann, 2013; Hazel et al., 2014), we have been able to depict how smartphone participation is conveyed through different semiotic resources, and by looking at these participation frameworks as they are produced in situ we have been able to depict how engagement and disengagement are adjusted and negotiated in (not least) embodied interaction.

The role of the smartphone is often discussed in the recently increasing number of studies of digitization and classroom interaction. Media coverage of smartphones in the Nordic countries often bring forward a blatant critique towards schools that allow smartphones, and there is even talk of a national ban in Sweden,

the likes of which has been implemented in a number of other countries (Ott, 2017). In a Swedish context, Olin-Scheller and Tanner (2015) have presented a study which shows that smartphones do not primarily appear as a disturbance in the classroom, rather the students seem to be finding strategies for using the smartphones so that they do not interfere with the teaching at hand. The results presented in this chapter seem to be in line with this, as the smartphone use appear to be a small obstruction for the teaching and learning in the classrooms studied. Rather, the smartphone use is related to the in-between spaces, the student-initiated breaks that occur in class. In one case (example 3) the students are impelled by the teacher to use their phones to solve the assignments given. Instead, the focus in this chapter is rather on the interactional role of the phones, and the role they play in the students' embodied participation in classroom interaction.

Example 1–2 show how the students supplement their embodied interaction with the use of their phones in order to distance themselves from participation in classroom interaction. They lean away from interacting with others, using the phone as a shield to protect them from eye contact. In the third example the students all use their phones to answer the questions that are linked to the assignments. They discuss amongst themselves, leaning in towards the mannequin heads and consider which solution to apply, but when it comes to actually producing the final answer they again lean away from each other and construct their individual contributions.

The act of leaning, as an added movement to the smartphone use, is interesting to look at, as it appears in our examples to produce considerable meaning. The two examples taken from the

building and construction classes show a contrariwise movement towards other participants when looking at interaction related to smartphone use. Example 4 has a constant movement among the students towards one another, taking close-up pictures, displaying their screens, laughing together. In the last example in this chapter we see a student literally climbing into interaction, and what follows can be interpreted as a dance, where Aron invites himself by leaning in and interestingly following Liam's screen, while he, at the same time, is invited by Liam to take part in, and contributing to the on-screen interaction, thus building a sense of loyalty and trust between the two peers.

These examples need to be completed with further research, we need more studies of embodied vocational classroom interaction in order to be able to draw a fuller picture of what and how students make sense with objects in classrooms. And in line with Mondada (2014:138), we need more research on embodied interaction to overcome the dichotomy between verbal and non-verbal interaction to see the many layers of diverse semiotic resources students put into work when interacting with each other in a digitized world.

REFERENCES

Alexanderson, K., & Davidsson, P. (2014). *Eleverna och internet 2014*. Internetstiftelsen i Sverige: Stockholm

Asplund, S-B. & Kontio, J. (submitted). Becoming a construction worker in the connected classroom: Smartphones as happy objects in a male-dominated vocational education. *Nordic Journal of Vocational Education and Training*.

Asplund, S-B., Olin-Scheller, C. & Tanner, M. (2018). Under the teacher's radar: Literacy practices in task-related smartphone use in the connected classroom. *L1-Educational Studies in Language and Literature*, 18 (Open Issue), 1–26.

Asmuß, B. & Svennevig, J. (2009). Meeting talk: an introduction. J. Bus. Commun. 46 (1), 3–22. http://dx.doi.org/10.1177/0021943608326761

Beland, L.-P., & Murphy, R. (2015). Ill communication: technology, distraction & student performance. *Centre for Economic Performance* (EP) (No.1350). Discussion Paper

Davitti, E., Pasquandrea, S. (2013). Interpreters in intercultural communication: how to modulate the impact of their verbal and non-verbal practices? In: *Best Practice Catalogue.* http://bridge-it.communicationproject.eu/Publications.htm. Last accessed: 8 April, 2019

Deppermann, A. (ed.) (2013). Conversation analytic studies of multimodal interaction. *J. Pragmat.* 46 (1) , (special issue).

Deppermann, A., Schmitt, R., Mondada, L. (2010). Agenda and emergence: contingent and planned activities in a meeting. *J. Pragmat.* 42 (6), 1700–1718. http://dx.doi.org/10.1016/j.pragma.2009.10.006

Enfield, N. (2005). The body as a cognitive artifact in kinship representations: hand gesture diagrams by speakers of Lao. *Curr. Anthropol.* 46 (1), 1–26

Flewitt RS (2011). Bringing ethnography to a multimodal investigation of early literacy in a digital age. *Qualitative Research* 11(3): 293–310.

Gibson, J. J. (1979). *The Ecological Approach to Visual Perception.* Houghton Mifflin, Boston.

Goodwin, C. (1980). Restarts, pauses, and the achievement of mutual gaze at turn- beginning. *Sociol. Enq.* 20 (3–4), 272–302. http://dx.doi. org/10.1111/j.1475-682X.1980.tb00023.x

Goodwin, C. (2000a). Action and embodiment within situated human interaction. *J. Pragmat.* 32 (10), 1489–1522. http://dx.doi.org/10.1016/ S0378-2166(99)00096-X

Goodwin, C. (2000b). Practices of color classification. *Mind Cult.* Act. 7 (1–2), 62–82.

Goodwin, C. (2013). The co-operative, transformative organization of human action and knowledge. *J. Pragmat.* 46 (1), 8–23. http://dx.doi. org/10.1016/j.pragma.2012.09.003

Goodwin, C. & Goodwin, M. H. (2004). Participation. In: Duranti, A. (ed.), *A Companion to Linguistic Anthropology.* Blackwell, Oxford, pp. 222–244.

Goodwin, C. (2007). Participation, stance and affect in the organization of activities. *Discourse Soc.* 18 (1), 53–73. http://dx.doi.org/10.1177/0957926507069457

Goodwin, M. H. & Goodwin, C. (1986). Gesture and c oparticipation in the activity of searching for a word. *Semiotica* 62, 51–75. http://dx. doi. org/10.1515/semi.1986.62.1- 2.29

Goffman, E. (1981). *Forms of Talk.* University of Pennsylvania Press, Philadelphia.

Hazel, S., Mortensen, K., Rasmussen, G. (eds.) (2014a). A body of resources – CA studies of social conduct. *J. Pragmat.* 65, (special issue).

Hazel, S., Mortensen, K., Rasmussen, G. (eds.) (2014b). Introduction: a body of resources – CA studies of social conduct. *J. Pragmat.* 65, 1--9. http://dx.doi.org/10.1016/j.pragma.2013.10.007

Heath, C. (1986). *Body Movement and Speech in Medical Interaction*. Cambridge University Press, Cambridge.

Hindmarsh, J., Heath, C. (2000). Sharing the tools of the trade. The interactional constitution of workplace objects. *J. Contemp. Ethnogr.* 29 (5), 523–562. http://dx.doi.org/10.1177/089124100129023990

Jewitt C., Bezemer J., O'Halloran K. (2016). *Introducing Multimodality*. London: Routledge.

Jewitt, C., Price, S., & Xambo Sedo, A. (2017). Conceptualising and researching the body in digital contexts: towards new methodological conversations across the arts and social sciences. *Qualitative Research*, *17*(1), 37–53.

Kendon, A. (1967). Some functions of gaze direction in social interaction. *Acta Psychol.* 26, 22–63.

Kendon, A. (1990). *Conducting Interaction: Patterns of Behavior in Focused Encounters*. Cambridge University Press, Cambridge.

Kendon, A. (2004). *Gesture: Visible Action as Utterance*. Cambridge University Press, Cambridge.

Kidwell, M., & Zimmerman, D. H. (2007). Joint attention as action. *J. Pragmat.* 39 (3), 592–611. http://dx.doi.org/10.1016/j.pragma.2006.07.012

Kuznekoff, J.-H., & Titsworth, S. (2013). The Impact of Mobile Phone Usage on Student Learning, *Communication Education*, 62:3, 233-252

Mondada, L. (2007). Multimodal resources for turn-taking: pointing and the emergenceof possible next speakers. *Discourse Stud.* 9 (2), 195--226. http://dx.doi.org/10.1177/1461445607075346

Mondada, L. (2009). Emergent focused interactions in public space: a systematic analysis of the multimodal achievement of a common interactional space. *J. Pragmat.* 41 (10), 1977–1997. http://dx.doi.org/10.1016/j.pragma.2008.09.019

Mondada, L. (2012). The dynamics of embodied participation and language choice in multilingual meetings. *Lang. Soc.* 41 (2), 213--235. http://dx.doi.org/10.1017/S004740451200005X

Mondada, L. (2014). The local constitution of multimodal resources for social interaction. *J. Pragmat.* 65, 137–156. http://dx.doi.org/10.1016/j.pragma.2014.04.004

Nevile, M., Haddington, P., Heinemann, T., Rauniomaa, M. (eds.) (2014a). *Interacting with Objects. Benjamins*, Amsterdam.

Nevile, M., Haddington, P., Heinemann, T., Rauniomaa, M. (eds.) (2014b). On the interactional ecology of objects. In: Nevile, M., Haddington, P., Heinemann, T. (eds.), *Interacting with Objects*. Benjamins, Amsterdam, pp. 3–26. http://dx.doi.org/10.1075/z.186.01int E. Davitti, S. Pasquandrea / Journal of Pragmatics 107 (2017) 105–128 127

Olin-Scheller, C., & Tanner, M. (2015). Street smart i klassrummet?: Högstadielevers användning av smarta telefoner i undervisningens

mellanrum [Street smart in the classroom?: Secondary students' use of mobile phones inbetween education]. *KAPET*, Karlstads Universitets Pedagogiska Tidskrift, 1, 23–24.

Olin-Scheller, C., Tanner, M., Tengberg, M. & B. Ljung-Egeland (eds.), *Text-kulturer* (pp.175–194). Karlstad, Sweden: Karlstads universitet.

Ott, T. (2017). *Mobile phones in school: from disturbing objects to infrastructure for learning.* (Diss.) Göteborg : Göteborgs universitet, 2017. Gothenburg.

Rossano, F. (2012). Gaze in conversation. In: Sidnell, J., Stivers, T. (eds.), *The Handbook of Conversation Analysis.* Wiley-Blackwell, Malden, MA, pp. 308–329.

Sahlström, F., Valasmo, V., Paakari, A., & Slotte-Lüttge, A. (2015). *Mobile phones in classrooms and its relation to classroom interaction.* Paper presented at NERA conference 2015, Gothenburg 3–5 March, Sweden.

Sahlström, F., Tanner, M. & Valasmo, V. (in press). Connected youth, connected classrooms. Smartphone use and student and teacher participation during plenary teaching. *Learning, culture and social interaction.*

Sakai, S., Korenaga, R., Mizukawa, Y., Igarashi, M., (2014). Envisioning the plan in interaction: configuring pipes during a plumbers' meeting. In: Nevile, M., Haddington, P., Heinemann, T., Rauniomaa, M. (eds.), *Interacting with Objects. Language, Materiality and Social Activity.* Amsterdam, Benjamins, pp. 339–356. http://dx.doi.org/10.1075/z.186.15sak

Schegloff, E. (1998). Body torque. *Soc. Res.* 65 (3), 535–596.

Scollon, R. & Scollon, S. W. (2004). *Discourse in Place. Language in the Material World.* Routledge, London.

Stivers, T. & Sidnell, J. (2005). Multimodal interaction. *Semiotica* 156 (1–4), 1–20.

Streeck, J. & Hartge, U. (1992). Previews: gestures at the transition place. In: Auer, Peter,di Luzio, Aldo (eds.), *The Contextualization of Language.* Amsterdam, Benjamins, pp. 135–158.

Tanner, M., Olin-Scheller, C., Buskqvist, U., & Åkerlund, D. (2017). Ett pappers-löst klassrum? Utmaningar för det uppkopplade klassrummets literacyprak-tiker. [A paperless classroom? Challenges for literacy practices in the connected classroom]. In: Ljung-Egeland, B., Olin-Scheller, C., Tanner, M. & Tengberg, M. (eds.). *Textkulturer.* Karlstad: Karlstad universitet, pp. 175–194.

Wei, F-Y.F., Wang, Y.K. & Klausner, M. (2012). Rethinking College Students' Self-Regulation and Sustained Attention: Does Text Messaging During Class Influence Cognitive Learning?, *Communication Education*, 61:3, 185–204.

APPENDIX: TRANSCRIPT NOTATIONS

[overlapping utterances, whether at the start of an utterance or later

]   indicates a point at which two overlapping

	utterances both end, where one ends while the other continues, or simultaneous moments in overlap which continue
(2.0)	length in seconds of a pause
(.)	a short untimed pause (less than 0,2 seconds)
(( ))	contextual description and accounts
(x)	an uncertain hearing of what the speaker said
<u>Word</u>	stressed syllable or word
⁻world°	degree signs indicate that talk is markedly quiet
>word<	left/right carats indicate that the talk between them is compressed
:	a prolonged stretch
=	continued speech
-	hyphen after a word indicates a cut-off or self-interruption up arrow marks a sharp rise in pitch

Adult education in health and social care – Vocational education as a way into society

Katarina Lagercrantz All[*]

Abstract: In Sweden, as in many other countries, the health and social care sector are in great need of staff recruitment and are therefore a secure road into the labour market for people who are unemployed or risk being unemployed (Torres, 2010a; Ahnlund & Johansson, 2010; SCB, 2014). To secure employment in the workplace, for example in elderly care, there is a requirement for a formal education: the adult education program in health and social care (SOU 2008:126). The purpose of this paper is to investigate the students' experiences of their education, with a focus on what competence and knowledge they describe as necessary in their future work in health and social care. The data is collected from 15 in-depth interviews with students in adult education programs in health and social care at different schools.

Theoretical framework is based mainly on Lave and Wenger theory of Legitimate Peripheral Participation and Learning (Lave & Wenger 1991/2011). The analysis also includes a socio-cultural theory according to Säljö (2000/2005). The result shows that the requirement of cultural and linguistic competence is paramount. It also became clear that during the education, the student will meet several complex mediating artifacts,

*   Correspondence: katarina.lagercrantz@edu.su.se

some of them can make the work even more complicated. Furthermore, it became clear that personal qualities can be crucial to whether education is finished.[11]

Keywords: Adult vocational education, Health and social care, Knowledge and Competence, Legitimate Peripheral Participation and Learning, Sociocultural theory,

1. INTRODUCTION

Adult education has a long tradition in Sweden with the purpose of securing employment, as well as an inclusivity and democratic mission (Fejes, 2015, 2016, Fejes et. al 2018). The recent influx of foreign-born students, a large portion being refugees, has led to an increased focus on adult education as an important integration tool (Dahlstedt, et al 2018: Teräs et al 2018). One action taken to increase access to adult education is a government grant to finance a regional vocational adult education. The purpose of the government grant is said to "increase the educational provision for adult students in vocational education and meet the needs of the labour market" (Swedish National Agency for Education 2018). The conditions of the grant strengthen the bond between adult education and the labour market. With this grant, admission rules were changed and vocational adult education can now take place in combination with Swedish for Immigrants (SFI) and Swedish as a second language (SVA) at the basic level. Education is seen as a way into the Swedish society by offering necessary professional skills for the labour market,

11   This paper is based on my dissertation Lagercrantz All, K. (2017). Vård och Omsorgselevers erfarenheter från vård- och omsorgsutbildningen inom Komvux. Doktorsavhandling från institutionen för pedagogik och didaktik: Stockholms universitet.

and knowledge on how to live in Sweden (Ministry of Education and Research 2015).

The health and social care classes within adult education programs provided by municipalities is the formal education path for adults to employment in the health and social care sector as a certified nurse's assistant, work at a mental care facility, personal support worker, or similar. The program includes both theoretical parts and practice in work placement. The program is three semesters, but can vary in length depending on the student's previous experience. Validation of entire classes or parts thereof is common and can shorten the length of the education. The students are a heterogeneous group across age, sociocultural background, etc. During recent decades, the amount of immigrants and students who don't have Swedish as their native language has increased in the program (SOU 2018:71). Priority access to the program is given to those most in need of education (School law 2010, chapter 20, 2§). That means that the adult students attending the classes are a group that largely consists of people outside the work force and who more often than not have a weak educational background. Adult education has, during the last ten years, changed in form and structure, with less traditional teaching and more education in forms of blended learning. As far as the organization is concerned, what can be termed as a marketification in adult education in vocational education has taken place (Fejes, Runesdotter och Wärvik 2016). This means that private companies are managing education after procurement from municipalities.

The adult education in health and social care have for a number of years been a hybrid between vocational training and employment measures, this is explained by the urgent labour need in the health and social care sector and has therefore been a smooth path for groups in need of income (Torres, 2010a;

Ahnlund & Johansson, 201; SCB, 2014). Work assignments and working conditions within the different fields that the students do their workplace based education and acheive future field of employment have also changed. A change in the forms of care, with increasingly more advanced, and care in the homes meeting severely ill patients, requires more knowledge (Wreder, 2005; Szebehely, 2000). The increase of patients receiving care in the home has also led to increased amount of alone working (Törnqvist, 2004). Increased use of technology and requirements on documentation are other changes that require different skill sets. The fact is that health and social care adult education programs lead to opportunities in the labour market – a vehicle for social inclusion – but at the same time can be considered an education that leads to more demanding work, emphasizes the importance of investigating the outcome of the education (Nilsson, 2010).

The outline of the text is as follows: initially, previous research about adult education is described. Thereafter, it explores the theoretical starting points in the study based on Lave & Wenger's theory about learning, as a social practice with others. Further, there is a socio-cultural perspective present in the analysis under the influence of Roger Säljö. Within this theory the term mediating artifacts is meaningful. The result is presented under different themes using quotations from the interview subjects and the following interpretation. Finally, a discussion is held regarding the result.

1.1 PREVIOUS RESEARCH

In the last few years, little research has focused on adult education (SOU 2018:71). Komvuxutredningen (SOU 2018: 71) highlights the lack of research and calls for more, as well as ped-

agogical as didactic studies. Vierula (2016) points out the lack of research from a Nordic perspective in regards to the student group in question. Depending on the interest and the political investment on the adult education, the interest in research has varied. Focusing on adult education as a possibility of economic growth has been discussed by Nilsson (2010), amongst others. That education leads to production gains is unopposed, but it is questioned whether education leads to a more general financial gain. Further, Nilsson (2010) states that depending on deficiencies in the educational system and its organization, it is not certain that vocational training leads to increased social inclusion. The result of adult education and the participant's possibilities to enter the labour market is thus disputed. When it comes to the turnout from the adult education in financial terms, it takes years before education has an effect on the participant's finances (Swedish Labour Policy Council 2018).

The result of my dissertation, which was about adult students' experiences from the health and social care education within Komvux pointed to the education, other than being vocational training, is also a participation process for the participants (Lagercrantz All 2017). Research shows that education and the tasks that the students face during their work placements is challenging and there are high requirements according to several researchers (Ahnlund, P. 2008a: Gleerup 2009; Lagercrantz All 2017). The requirements are theoretical, but relate mainly to personal qualities such as the ability to communicate, and cultural competence. Bennich (2013) describes the importance of health and social care personnel having the clinical eye, something you gain by experience. Therefore, the personal competence has to do with adjustment and empathy (Alsterdahl 2002). The requirement of the relational competence recurs in several

pieces of research (Bennich 2013; Ahnlund 2008; Ellmersjö 2014). The employability, is primarily about informal qualifications and social competence, as well as a knowledge of the Swedish language (Hertzberg 2006). Several research reports point to the lack of knowledge in Swedish as an obstacle for newly arrived people and people with Swedish as their second language establishing themselves on the labour market (Nordregio Karlsdottir, Sigurjonsdottir, Hildestrand 2017).

2. THEORETICAL FRAMEWORK

The theoretical framework in the study is basically drawn on Lave and Wenger´s theory of legitimate Peripheral Participation and Learning within a Community of Practice (Lave & Wenger 1991/2011). One important starting point is that these students strive to gain legitimate acceptance to a group of already-established and more advanced caregivers. Their learning thus occurs in interaction with others in a social practice, and is therefore situated at a certain time and space.

Competence, as described by Wenger, includes experiences and the ability to perform tasks required of the professional role with some degree of quality. In this manner, competence is not about learning something instrumental, but about a learning that involves living with others, something that affects the involved parties' identity development (Wenger 1998/2008).

The analysis also includes a sociocultural theory in addition to Lave and Wenger, mainly attributed to Säljö, whose theory about artifacts have been of particular interest (Säljö 2000/2005). The students' learning involves taking part in mediating artifacts in the form of varying tools available in health and social care

work such as medical equipment. It is also largely about being able to acquire intellectual mediating artifacts, where language is the most important. The acquisition of different artifacts is also important for Wenger, who writes about the importance of reification in the learning process, where reification means giving concrete meaning to what are abstract issues (Wenger 1989/2008).

When Wenger writes about learning, it includes belonging, identity creation, practical action, and creating meaning. In accordance with Wenger, participation in education and work is closely connected to a combination of three different kinds of belonging:

1) Engagement
2) Imagination
3) Alignment.

To align with and adapt to the activity is possibly the most important part of the sense of belonging (Wenger, E. 1998/2008). The construction of identity interweaves between the personal and social identity, and Wenger does not draw a clear line between the individual, the institutional, and the social in this construction of identity. Identities, as Wenger describes them, are a result of a human's lived experiences in a social, cultural, and historical context (1998/2008).

In this study competences and knowledge is understood as something the students receive in interaction with others in a social practice. The students receive both knowledge related to the job tasks but also knowledges related to be a part of society.

2.1 PURPOSE

The purpose of the study is to examine how students in health and social care education within adult education describe the knowledge and competence requirements they face during their education and future field of work. The research questions are:

- What kind of competence and knowledge do the students describe they need during the education and in their future work?
- How do the students describe their learning process?
- Where does the learning take place and with who?

3. METHODS AND DATA

The empirical data consists of transcripts from interviews with 15 students, comprised of three men and 12 women, in a health and social care adult education program. The questions asked, in accordance with the interview guide, revolve around: the most important thing they have learned, what has been difficult, and what has been good as well as several follow up questions: why and how can you develop that thought, etc.

To gain an increased understanding of the students' experience of their education regarding recurred knowledge, and their learning process, I have used a hermeneutic analysis. The so-called Stockholm school is a hermeneutic tradition developed at Stockholm University (Gustavsson 2000a). Interpretative analysis can be described as an alternation between an interest in what the interlocutors mean, known as an experience near interpretation, and a more theoretical way to understand

the quotation, known as an experience distant interpretation (Gustavsson 2000b).

With regard to informed consent, autonomy, confidentiality, privacy, and the usage requirement, I have followed the Swedish Research Council's formulated principles of research ethics for the humanities and social science.

4. RESULT

The result shows the different kinds of knowledge, competence, and experience the education and future work requires. These are requirements that will become clear during the course of the education. Important knowledge is understanding of the culture and the norms that apply in practice. There are also requirements on being able to use the artifacts in the shape of medical apparatus, tools, laws, and rules. During the interviews the flaws in regards to language, experience, and education, of the subjects as well as others become visible. The four revealed themes are: professional competence, cultural competence, language competence, and social learning.

4.1 PROFESSIONAL COMPETENCE

The requirements of formal education for a certified nurse's assistant mean that the students take part of new knowledge and experiences. Some knowledge means that the work will change and that you will perceive and view people differently.

You look at them with little more clinical eyes, before you more looked at how their souls were. But now you're a little more obser-

vant of other symptoms, [...] like you should [...] That's the sort of things you don't really think about when you don't have the medical training and just go by feeling. (Eva)

To learn more about the medical means, with Eva's description, that she partly changed her view on the caretaker in the health and social care work. It seems like, by the quote, that there are a number of rules on how and what to watch for while working. The quote suggests that physical symptoms can be more important than spiritual ones. The emphasis Eva and the other interview subjects put on the medical knowledge can be interpreted in multiple ways. One possible interpretation is that it connects to a clear professional identity making it easy to value. It has to do with the fact that in health and social care today emphasis is put on medical care. Mismanagement of patients that causes bodily harm, for example bedsores, make easy headlines.

Eva describes the nature of what she has learned can be part of the professional community in a different way. This view on competence is shared for other experiences and the new competence will therefore create a feeling of belonging with the others at the workplace.

Then I really wanted the medical bits, that I feel that I haven't had, like, about anatomy. Right now, I'm studying a medical basic course and I feel like that is super interesting because I feel like I'm learning lots. I only know about diabetes. (Eva)

It is interesting to learn something new and especially to take part of what can obviously be perceived as meaningful knowl-

edge. The student, who has worked without education within health and social care for many years, emphasizes her lack of knowledge in the medical field while discounting other experiences and the competence she achieved through work.

There are also other fields of knowledge that are important to performing tasks and thereby becoming a part of the community in the workplace.

> *If we are supposed to work with people, [...] we need to have a lot of knowledge about people, in psychology, about illness, how to care for them, about that, about what they have, if we don't have the knowledge how can we help them.* (Eleni)

The different fields within health and social care have different requirements of knowledge.

As Eleni describes, it is about theories and knowledge that can be studied, but also how to do it which involves practical know-how. How to take care of the patient is also about an understanding of others that is not necessarily learned through education.

> *If you can't take people, you shouldn't work with people whatsoever // Everyone isn't fit to work with people whether you're a certified nurses assistant or not.* (Petra)

Petra describes colleagues and tutors that have gone through the training but who do not have the skill to *take people,* a skill that is basic and from the quote can be interpreted as being about more personal characteristics than education. When the students describe their professional knowledge, it is about the

medical knowledge, but also about their relational competence. It is in the practical work, such as meeting patients, that professional competence takes form and is judged.

4.2 CULTURAL COMPETENCE

Cultural competence is important. It is about participating in Swedish culture and traditions, about knowing the social and cultural norms in Swedish society, but also the specifics related to health and social care and the work placement the student has.

It is through the meetings, patients and tutors that the students encounter during work placement that the requirements of cultural competence

> *When I worked as a cleaner I didn't have much contact with people, and now I have contact with people and I have contact with old and you can learn a lot, you can learn about Sweden. (Mitra)*

During her previous work as a cleaner, few to no possibilities were given to meet others and to learn about how it is to live in Sweden. This can be interpreted as being about the norms and values, about cultural and traditional patterns, in a new context.

> *Yes, it's really good that I've taken this class because we read about different cultures, we have to know and I'm from Thailand and we have different cultures and how we don't clash with your culture. It's really good in this school. I learn a lot. (Eleni)*

Education is important for creating possibilities for increased cultural competence. There is a strong will to learn in order

to reduce conflict due to student`s ignorance. This refers to an aspiration to become normalized, to become a part of the Swedish community and belong to the Swedish society.

Cultural competence is not only related to ethnicity but also age.

> *To have a young girl coming to your house that doesn't even know how to make an omelette. [...] Half of the people knew how to make porridge [...] (Eva)*

To know about different dishes and basic cooking is important and can relate to age as well as ethnicity. Eva refers to her work placement as a personal support worker and is upset over the lack of knowledge many of the younger staff showed in regards to cooking simple meals. The quote below shows a competence that can be related to age and ethnicity rather than to the formal education.

> *We get strawberry to potato pancake? What is this? That's not the way it is [...] You should know that, ordinary Swedish home cooking. (Petra)*

The student describes the frustration that occurs when the patients are given the wrong jam for their pancakes. The student points to the importance of working with staff that can cook, which also points to an understanding of the elderly's needs and the cultural importance of food and cuisine.

4.3 LINGUISTIC COMPETENCE

The importance of language appears is clear. It is difficult to take advantage of education without sufficient knowledge of the Swedish language. It is also difficult in practice when communication fails during meeting with patients and tutors.

> *Right now, I don't have the education and I don't have much experience, it's really good for me with education, and I who don't have the language. I only have six years in Sweden and don't have perfect Swedish and don't understand all the words and their meaning and stuff like that. (Eleni)*

Education is seen as an opportunity to acquire the Swedish language. The student describes their relative short time in Sweden and the obstacle that language is in different settings. It is about not having the words, but also about not understanding the meaning behind the words. It can be about putting the word in the right context and being able to use the language in different contexts.

> *It's hard to know how to express yourself. It's not only, ok, it's body language, but it doesn't help, you have to speak clearly, talk about, yourself, it's hard to express yourself. (Kadidja)*

Even if it is possible to use body language it is not always enough when talking about who you are. To not be able to tell others about yourself, who you are, and what you do creates insecurity about their own role. That can be related to both the professional identity as well as the personal identity.

Deficiencies in the Swedish language are described as problematic by both colleagues and tutors.

> *Make sure they (the co-workers) get to learn the language properly so they can use all the knowledge they possess. There are tons of people that aren't good at Swedish but that are still, great [...] but in meeting and communicating it still doesn't work at all [...]. (Petra)*

This quote shows the problems that occur when communication does not work due to language barriers. Petra, who has Swedish as her native language, expresses the difficulties when communication is lacking in the workplace. The quote also shows an understanding by the colleagues who do not have Swedish as their native language and their knowledge and experiences. Language is crucial for work however and has importance not only for those who have a different native language than Swedish, but also for colleagues and patients.

> *I maybe wish that you would have required a little more before being accepted to the education, language wise, (Lisa)*

Lisa states that the language skills requirements should be higher and is important for everyone involved. This is not just about the difficulties for the language-weak student and their communication with colleagues, but also about care-recipients who suffer when the Swedish language fails.

If you're older and have bad hearing and is a little confused, a little disoriented, and someone comes that can't understand you and you can't understand the person it becomes super difficult, [...] (Lisa)

Lisa expresses the patients' experience of meeting caregivers who do not have Swedish as their native language. Something that can cause worry and worsen the state of the elderly.

You don't do that, to the old in Sweden, children and elderly "no no no" so I think it's the employer who has that responsibility [...] if you want to hire people that don't actually speak Swedish. (Petra)

Petra puts the responsibility of the employees having and learning linguistic competence on employers. This can be seen as important by everyone working in health and social care as well providing the opportunity for the care-recipients to receive good care.

4.4 SOCIAL LEARNING

The learning the students describe takes place mainly in a social context, such as in meetings with teachers and peers and during the work placement meetings with patients and tutors. The interview subjects' descriptions demonstrate the importance of different learning rooms. The workplace is important in order for the students to practically use their new skills and experiences. During their education, the opportunity is given to take part in the social practice health. Social care entails of

and is thereby an important step in the socialization process to a profession.

Education can provide learning that leads to new knowledge and experiences, but also leads to personal changes on a deeper level.

> *But school and talking to others have led to you reflecting in a way you didn't at first [...] a lot of afterthought and reflection today is very important to do a good job, for me to come home and feel like I've done a good job. (Ola)*

Ola describes that he thinks differently as a result of his education. His education has led to increased reflection that has, in turn, led to higher expectations of how he performs his work. Below he refers to his education stating that work has high requirements, a self-insight into what you can and cannot do.

> *I don't know, I think it's been gradually, partly you've read, you've talked to tutors at the work placement, and you've seen tutors and other personnel during practice. (Peter)*

His learning is a process that takes place during meetings with different people and by participating in different situations. According to Peter's description, his work placement is important for learning about professional competence, but studying is important to acquire the requested knowledge.

> *You come back to school and learn and talk about the work placement and then you trade information with the other students. Then you become more secure and self-confident in what you're doing. (Bitania)*

Bitania points to the importance of coming back to the formal school environment and meeting the fellow students. To exchange experiences with the peers, mean to share partly similar experiences and support each other in complex situations from the work placement.

5. DISCUSSION

In this article, I have investigated the requirements on knowledge, competence, and experience students face during the theoretical and work placement part of their education. I have also studied where and whom are important for students' learning process.

The results show that even though the students describe the value of medical knowledge and other theoretical skills, the core of their education takes place during meetings with the patients and therefore communicative, linguistic and cultural competence is paramount. This is competence that partly develops during education, but if it is insufficient, can jeopardize the student's entire education project.

The requirement for knowledge, competence and experience at the students during the education is, according to Säljö (2000/2015), different types of artifacts. These are mediating artifacts that change over time, depending on institutional and societal changes. In health and social care several complex mediating artifacts have been added, such as different tools for documentation, different tools to measure time, and how the organizations are built, all of which the student must learn. Instead of making health and social work easier, this has further complicated the work. It is important to anticipate the qualified work

awaiting the students and the lack of, in many cases, important tools. Unlike other professional groups, the students lack clear instructions, such as manuals that other groups within care and social health can refer to when it comes to how different procedures are executed: follow ups, prescriptions, etc. For the student group who are future health and social care staff, personal experience will in many cases be the most important tool.

The results indicate that personal qualities can determine whether this education is finished. This is a complex competence that involves both physical and intellectual tools, where language is very important to be able to participate in the community of practice. The competence students are expecting the program to give them can, in many cases, is competence the students are already expected to possess. An example of this is a proficiency in Swedish language. The results show, that when students talk about their education and the challenges they face it become clear that it is important that the vet-program not only supports the students with knowledge related to job assignment but they also need knowledge in a wider sense for social inclusion.

Weaknesses in the Swedish language will greatly complicate participation in the social society. Hertzberg (2006) has written about the informal competences; such as social and linguistic competence as a basis for employability. Language is therefore essential to our ability to communicate, but it is also a resource for exploring existence, understanding others and ourselves (Lagercrantz All 2017).

The result shows the importance of the workplace training part of the education. It is during this period that students are given the opportunity to take part in the tasks that are part of

the profession. The theoretical and the practical knowledge will in the workplace become interwoven. It is about the experience in the practical work with Wenger's (2008) terminology that involves reification. That is, the concretization of the abstract.

The result also shows the value of coming to school during education and sharing experiences with classmates and teachers. The formal school context provides the opportunity for a critical approach, which is stimulating for their learning process. Wenger writes: "Education is not merely formative – it is transformative". (Wenger 2008, p. 263). This can show that different learning environments contribute in different ways to different experiences and competencies.

Meeting supervisors, colleagues and, above all, caregivers appears to be very important for the students' learning process. It is about developing a professional maturity in the meeting, something that happens through conversation and the possibility of reflection. Several researchers (Törnqvist 2004; Bennich 2013) write about relational competence. This is reflected in the result as part of personal competence and is about taking responsibility, being able to value one's actions and commitment, something that is greatly developed in interaction with others.

When looking at the results it can be concluded that the health and social care program genuinely offers opportunities for inclusion and learning process that, to some extent, provides the possibility of participation, but at the cost of health and social care staff finding themselves in extremely challenging or poor working situations as a result of the discipline of inclusion they are exposed to. The results clearly show the complex knowledge the work in health and social care required something that must be considered when the education and training for future

health and social worker is organized, also taking into account the current student group participating in the education.

More studies about adult students in the program of health and social care are needed, referring to the complicated work the students will meet after their education. How the education is organized and the support the students receive will have a great impact on how well the work in health and care can be carried out and the adult students' opportunity for integration into society.

REFERENCES

Ahnlund, P. (2008a). Omsorg som arbete. Om utbildning, arbetsmiljö och relationer i äldre- och handikappomsorgen. Akademisk avhandling. Institutionen för socialt arbete, Umeå universitet.

Ahnlund, P. & Johansson, S. (2008**b**). Utbildning och kompetensfrågor för äldre och handikappomsorgens personal. En forskningsöversikt. *I Socionomens forskningssupplement, temanummer om Socialt arbete i hälso- och sjukvård.* 6/2008 s. 72–84

Alsterdahl, L. (2002). Hertig av ovisshet – aspekter på yrkeskunnande. Arbetsliv i omvandling, Akademisk avhandling. 2002:1. Kungliga tekniska Högskolan.

Arbetsmarknadsekonomiska rådet. (2018) Arbetsmarknads ekonomisk rapport Olika vägar till jobb. Stockholm: Elanders Sverige AB

Byström, E. (2013). Ett lärorikt arbete? Möjligheter och hinder för undersköterskor att lära och utvecklas i sjukvårdsarbetet. Akademiska avhandling, Linköpings Universitet.

Dahlstedt, M. & Fejes, A. (2018). Futures in line? Occupational choice among migrant adult students in Sweden. International *Journal of Lifelong Education.* DOI:

10.1080/02601370.2018.1497719 .To link to this article: https://doi.org/10.1080/02601370.2018.1497719

Dreier, O. (1999a). Personal Trajectories of Participation across Contexts of Social Practice. Outlines. *Critical Social Studies.* Vol.1, 5–32.

Drugge, C. (2003). Omsorgsinriktat lärande En studie om lärande i hemtjänsten. Akademisk avhandling. Luleå tekniska Universitet.

Ellström, E. och Ekholm, B. (2001). Lärande i Omsorgsarbete En studie av hemtjänsten som lärandemiljö. Filosofiska Fakulteten Linköpings Universitet.

Fejes, A., (2015). Kortutbildade och vuxenutbildning. Stockholm: Stockholms Stad

Fejes, A., (2006). The planetspeak discourse of Lifelong learning in Sweden – what is an educable adult? *Journal of education policy*, 21 (6), 697–716.

Fejes, A., Runesdotter, C., Wärvik, G-B. (2016a). Marketisation of adult education: principals as business leaders, standardised teachers and responsibilised students standardised teachers and responsibilised students, International *Journal of Lifelong Education*, 35:6, 664–681, DOI: 10.1080/02601370.2016.1204366 https://doi.org/10.1080/02601370.2016.1204366

Fejes, A., (2016b). Vuxenutbildningens utmaningar i migrationens tidevarv. In B. Kindenberg, ed. Flerspråkighet som resurs. Stockholm: Liber.

Fejes, A. Dahlstedt, M., Olson, M., and Sandberg, F., (2018). *Adult education and the formation of citizens: a critical interrogation*. London: Routledge.

Gustavsson, A. (2000a). Tolkning och tolkningsteori 1 – Introduktion. Texter om forskningsmetod. Stockholm: Pedagogiska Institutionen, Stockholms Universitet.

Gustavsson, A. (2000b). Tolkning och tolkningsteori 2 – Fördjupning. Texter om forskningsmetod. Stockholm: Pedagogiska Institutionen, Stockholms Universitet.

Karlsdóttir, Anna, Sigurjónsdóttir, Hjördís Rut Ström Hildestrand, Åsa & Cuadrado Alex (2017). Nordregio Fler flyktingar fortare i arbete: Åtgärder för snabbare etablering på arbetsmarknaden. Nordregio Working Paper 2017:8 Stockholm: N Stockholm, Sweden

nordregio@nordregio.se, www.nordregio.org, www.norden.org

Lagercrantz All, K. (2017). *Delaktighet- och lärprocesser I en yrkesutbildning En studie av vuxna elevers erfarenheter av vård- och omsorgsutbildningen inom Komvux.* Doktorsavhandling från Institutionen för pedagogik och didaktik 46: Stockholms universitet.

Lave, J. & W, E. (1991/2011). *Situated learning Legitimate peripheral participation.* Cambridge University press

Nilsson, A. (November 21, 2010). Vocational Education and Training – An Engine for Economic Growth and a Vehicle for Social Inclusion?. International Journal of Training and Development, Vol. 14, Issue 4, pp. 251–272, 2010. Available at SSRN: https://ssrn.com/abstract=1733317 or http://dx.doi.org/10.1111/j.1468-2419.2010.00357.x

SOU 2018:71 En andra och en annan chans – ett komvux i tiden. Slutbetänkande av Komvuxutredningen

Swedish National Agency for Education. (2015). Komvux – Elever och kursdeltagare riksnivå. http://www.skolverket.se/statistik-och-utvardering/statistik-i-tabeller/komvux/elever-och-kursdeltagare [accessed 2016-09-07].

Szebehely, M. (2000). Äldreomsorg i förändring – knappare resurser och nya organisationsformer. I Szebehely, M. (ed.) *Välfärd, vård och omsorg.* SOU 2000:38, Stockholm: Fritzes förlag.

Säljö, R. (2000/2005). Lärande i praktiken ett sociokulturellt perspektiv. Smedjebacken: Bokförlaget Prisma.

Teräs, M., Osman, A., Lasonen, J. (2018). Vet and Newly Arrived Immigrants. Challenges of Recognition and Validation. In Lazaro Moreno Herrera, Marianne Teräs, Petros Gougoulika (eds.). *Emergent issues in vocational education & training voices from cross-national research*. The authors and Premiss Förlag 2018.

Torres, S. (2010b) Invandrarskap och tvärkulturella äldreomsorgsmöten. I: (ed.) Johansson, S. *Omsorg och mångfald*. Malmö: Gleerup.

Törnquist, A. (2004). Vad man ska kunna och hur man ska vara. En studie av enhetschefers och vårdbiträdens yrkeskompetens inom äldreomsorgens särskilda boendeformer. Akademisk avhandling

Wenger, E. (1998/1999/2008). *Communities of practice, Meaning of practice*. Cambridge University Press.

Wreder, M. (2005). *I omsorgens namn Tre diskurser om äldreomsorg*. Karlstads universitet.

Wärvik, G-B. (2011). Tvingande styrningsideal i en marknadsutsatt utbildning för vuxna? *Nordic Journal of Education and Training*. Vol. 1 No. 1 2011.

Vetenskapsrådets rapportserie, 1: 2011.

https://www.vr.se/download/18.2412c5311624176023d25b05/1555332112063/God-forskningssed_VR_2017.pdf [accessed 2019-09-24]. Utbildningsdepartementet 2015

https://www.government.se/government-of-sweden/ministry-of-education-and-research/ [accessed 2019-09-24]. Skollagen (2010)

https://www.riksdagen.se/sv/dokument-lagar/dokument/svensk-forfattnings-samling/skollag-2010800_sfs-2010-800 [accessed 2019-09-24].

Conflicts and tensions in the constructions of vocational teacher identities

Eva Eliasson[*]

Abstract: Interest in teacher identity as a concept in educational research is based on the idea that teachers' own identities guide their actions. A similarity among many researchers in the definition of the concept is that teacher identities are dynamic, multiple, agentic, contextual and constructed in narratives. The aim of this study was to examine how teacher identities were negotiated and constructed by student teachers in their digital logbooks during their last internship period. The research question concerned tensions and conflicting identities visible in their narratives. Log books from four student teachers were selected, based on the visibility of tensions and dilemmas. A theoretical model by Schutz, Nichols and Schwenke (2018) was used in the analysis. In the findings, tensions concerning leadership, relation to students and, teachers' versus students' responsibilities were identified. These conflicting teacher identities could not be described in a black-and-white perspective, rather on a scale between two opposites. However, all student teachers had constructed strong caring teacher identities. Since many students utilized the log post assignment to deal with problems, and in the writing process constructed teacher identities, it is import-

*   Correspondence: eva.eliasson@edu.su.se

ant that teacher educators offer opportunities for reflections, both private and in groups.

Keywords: teacher identity, vocational teacher education, narratives, digital logbooks, tensions

1.INTRODUCTION AND PURPOSE

Since many researchers state that teachers are the key agents to students' learning (Hattie, 2008; Håkansson & Sundberg, 2012; Jennings & Greenberg, 2009), an extensive interest in research where the concept "teacher identity" is used have been visible during recent decades (e.g Christensson, 2018; Schutz et al, 2018 (eds.); Eutsler & Curcio, 2019; Beauchamp & Thomas, 2009; Akkerman & Meijer, 2010). Interest for this concept is based on the idea that teachers' identities comprehend beliefs and ideas that guide teachers' actions (Ruohotie-Lyhty, 2018; Izadinia, 2018; Hahl & Mikulec, 2018). The concept also offers a holistic perspective where the teacher is the starting point for the research, instead of examining teachers' acquisition of assets expressed in learning outcomes (Akkerman & Meijer, 2011). Sachs (2005) argues that teacher identity is the core of the teaching profession and that it provides a framework for the teacher to construct their own ideas of "how to be, act and understand" their work. The concept is used in different ways from different theoretical and methodological standpoints. However, there are some identified similarities, shared by many researchers in the field.

First, teacher identity is seen as a continual, dynamic and reinventing process, shifting over time by the influence of internal and external factors (Schutz, Nichols & Schwenke, 2018; Beau-

champ & Thomas, 2009; Beijaard, Meijer & Verloop, 2004; Olsen, 2008; Sfard & Prusak, 2005; Akkerman & Meijer, 2011). This understanding contrasts the everyday use of the concept as something stable, authentic and essential (Clarke, 2018).

Second, it includes agency and teachers are engaging in reflection and interpretation of teaching practices (Schutz, Nichols, Schwenke, 2018; Beauchamp & Thomas, 2009; Arvaja, 2016). Nevertheless, it involves both a person and a context (Beijaard, Meijer & Verloop, 2004; Sfard & Prusak, 2005). Akkerman and Meijer (2011, p. 314) go one step further and stress that the individual is not only affected by other people; their voices "become *part of* the way we speak and act". In other words, one can say that the environment becomes part of one's identity. Some researchers use the concept of discourses in explanations of the teacher identity process and mean that discourses that teachers engage in provide insight into how teachers understand their roles (Beynon, 1997; Miller Marsh, 2002).

Third, teacher identities are multiple and include different dimensions that relate to one's professional and personal identity and to different situations and contexts (Hahl & Mikulec, 2018; Akkerman & Meijer, 2010). There can be tensions between different aspects of the identities, and researchers contend that a constant self-dialogue upholds the unity of a self (Akkerman & Meijer, 2010; Arvaja, 2016). Narratives are tools in teachers' meaning-making processes (Schutz, Nichols & Schwenke, 2018; Beauchamp & Thomas, 2009). Watson (2006, p. 525) state that telling stories is "doing identity work", and Akkerman and Meijer (2010, p. 313) state that "Identity can be considered as a narrative of ourselves". Another aspect is that teachers also construct their identities in relation to social

historical contexts, e.g. how their goals and beliefs are similar or different to other teachers' (Schutz, Nichols & Schwenke, 2018). Some researchers emphasize the emotional part of the construction of teacher identities as an influential part of teachers' actions (Beauchamp & Thomas, 2009; Hargreaves, 1998; Schutz, Nichols & Schwenke, 2018).

Despite the interest in research of the teacher identity development, Schutz, Francis and Hong (2018) claim that researchers are just in the beginning of understanding the complex process of teacher identity formation and the impact teacher identities have on student learning. In this text, I will examine selected situations derived from student teachers' log posts in in the last period of their vocational teacher education. The selected log posts include some tensions where conflicting ways of acting and thinking are visible. The aim is to examine how teacher identities are negotiated and constructed by student teachers in their digital logbooks during their final internship period. The research question is:

– What tensions and conflicting identities are visible in student teachers' narratives?

2. THEORETICAL STANDPOINTS, METHODOLOGY AND MATERIAL

As mentioned in the introduction, narratives are considered valuable for teacher identity construction. Reflections of teaching practices to increase self-awareness originate from Dewey's (1910) work. Dewey argues that reflective thinking arises when there are some doubts or difficulties (see also Schön, 1983). Based on the same mindset, Schutz, Nichols and Schwenke

(2018) state that reflection on critical classroom incidents, and emotions and attributions related to these events, may inspire the identity process. As they emphasize:

> However, it is important to keep in mind that what makes these events "critical" are the meanings assigned to those experience by the individual, the emotional episodes (pleasant or unpleasant) that are associated with those events, and the identity stories that are told and retold related to those events (Schutz, Nichols and Schwenke, 2018, pp. 52–53).

As a researcher, one can argue that these processes can be visible and open to interpretation in reflective texts, shedding light on what challenges student teachers meet and what kind of teacher identities they embrace (Arvaja, 2016; Hahl & Mikulec, 2018; Eutsler & Cuecio, 2019).

In this text, the material is log posts in an internship course (VFU III), the last one in the vocational teacher program at Stockholm University in Sweden. All students were future teachers in the sector of health care, specializing in educating nursing assistants. Half of them were placed in internship in adult education and half in the youth upper secondary school. Some of them already worked as a part-time teacher at their internship school. There was a total of 136 log posts, written by approximately 25 students. The log posts were published by the students in a digital, private portfolio, and was only accessible to authorized persons. In this context, the university teacher responsible for the course, and the mentor at the internship school had to be invited, something that naturally affected what was possible to write.

In the first step, I read all posts in the student teachers' logbooks. After the reading I made an overview by categorizing all

situations. The first idea was to make an overall description of the students' texts in different main categories, but that task was not possible because of the amount of texts. Instead, I chose to select log posts in which explicit or implicit tensions of ideas and behavior in relation to actual frames or circumstances appeared. Here, Schutz, Nichols & Schwenke (2018) offered guidelines in their categorization of key processes in teachers' identity constructions. They claim that when teachers were asked to reflect upon classroom situations, they often framed their reflections with some incoming beliefs. However, in classroom situations these beliefs and expectations could be challenged, often including emotions of different kinds. Depending on how teachers discussed and made meaning of these situations and the emotions involved, they retained their beliefs or adjusted them. In the selected situations in this study, tensions between who the students wanted to be as a teacher and the situations and experiences from the internship period were identified.

I chose log posts from eight students and sent e-mail to six of them, not knowing if the addresses were still relevant. Four of them answered, all positive to participation in the study. These four students were all working as vocational teachers at the time. I realized that four students were enough and did not contact anyone else. When the log posts were written, two of the students did their internship in adult education and two in upper secondary school with youths (16–19 years). Two of them already worked as part-time teachers at the same school where the internship took place. They were located in different parts of Sweden, in the capital, in towns and in a village. The participants were given fictive names, making them unidentifiable, except for the person who has written the text and persons (as mentors)

who have been invited to the portfolio. To further obscure identification, I do not exactly specify the year when the course took place (between 2016 and 2019).

The situations that the student teachers were asked to describe had to be connected to their practicing at schools. Since the internship was situated at vocational schools, situations from visits to vocational practices could also be included.

The instruction to the students about the writing was expressed as follows:

> *"Write about a delimited situation/event that caught your attention. First, describe the situation in an objective way. What happened and who were involved? Next, when you reflect on the situation, suitable questions are for example: Why did you choose this situation? What questions/thoughts/emotions arose? How do you think other persons involved experienced the situation? How can the situation be understood from subject content, teaching forms, teaching materials, knowledge criteria etc. Were there alternative ways to act as a teacher in the situation?"*

The description above is similar to what Schutz, Nichols and Schwenke (2018) call "critical classroom incidents".

Analytical questions to the student texts were: What incoming beliefs are visible in the student teachers' texts? What are the challenging parts/tensions? What emotions do they express? How much agency are visible in their understanding? Do the student teachers make adjustments in their beliefs?

3. RESULTS

3.1 A SUCCESSFUL LESSON

Karin is doing her internship in an adult education where many of the health care students originate from other countries. Many of them have only been in Sweden for a couple of years and are not fluent Swedish speakers, which is a challenge for the teachers (cf. Eliasson & Rehn, 2017). In Karin's log posts, there are reflections concerning these students, first about their difficulties with the Swedish language, but also about their strong performance in practical work.

The selected situation is a lesson outside the ordinary schedule. One of the teachers of a class with only second language speakers asked if Karin was interested in having a lesson with a small group of students with good skills in Swedish, a group the teacher did not have much time for. The assignment was to discuss an article and teach different reading strategies.

When reflecting afterwards, Karin is very positive and appreciated the lesson very much. She also had received feedback from the teacher that the students were satisfied. In her log post, several conditions are visible.

> *If I reflect over the lesson we had together, I can say we had a lot of fun. For me, it is connected, having fun and learning at the same time. I think some of the old values remain in society, in school you are not supposed to have fun, just to learn.*

In Karin's constructed teacher identity, the intention is that learning, and teaching, are fun. She positions herself against older social beliefs regarding schools and learning, not explic-

itly including values of other teachers. The situation strengthens her belief in the connectedness between these two aspects.

Furthermore, she describes these students as purposeful and goal-oriented, a condition that affects her experience of the lesson. The importance of motivation for learning is well-documented in research (Brophy, 2008), and teachers have always made efforts in finding motivation teaching methods as well as finding individual, motivation factors.

Karin also emphasizes the relational aspects in the classroom situation. The last point in the processing of the text was to forward their own comments, thoughts and questions related to the text.

> *They had come to know each other earlier in the course and dared to talk freely. [...] I, as a teacher, showed a great interest in who they were, their prior education, if they had children etc. They didn't have to answer but I showed interest and they could choose to steer the discussion elsewhere. The students seemed to appreciate my interest in them as individuals and talked about their prior educations, their families and their childhood etc.*

Karin appreciates the closer contact with the students that goes beyond the teacher-learner relationship. Probably, she has met many students during her internship where this intimate contact has not been possible to establish due to structural or individual factors. She is also aware of privacy aspects and does not want to push the students to share personal issues if they don't want to. Reflecting over this situation can be a way to deal with different types of relations with students and perhaps accept that it is not always possible to reach this far. Perhaps the relational aspect is

something she must process further in constructing her teacher identity, without abandoning her goal of having good relations with the students.

Another aspect she is satisfied with is the structure of the lesson.

> *We had a clear and easy structure to follow. We went through, point to point, and went around the group, so everyone could talk at every point. I think everyone understood the purpose of what we did (perhaps I could have been a little clearer with that).*

Karin is a little self-critical of how well she explained the purpose, but she is very content that every student had a speaking space in every moment. This is connected to many teachers' wish to pay attention to every student (Rehn & Eliasson, 2015) and make them visible, something that is difficult to fulfill in every lesson in large groups. Many student teachers find it difficult to "see every student", and it is necessary for them to create strategies to connect to students in different ways, even if they are not talkative in the large group. They also need to find didactical approaches, for example constructing small group talks, where students and the teacher can interact in other ways.

At the end of the text Karin claims:

> *It was a dream scenario to help these young women on their way to knowledge [...] At the same time as I led them, we shared knowledge with each other and showed humility and interest in each other's different experiences. [...] This was an experience I hope I will remember for a long time, and it will strengthen me in my teacher role.*

This piece of the text indicates that this situation is extra-ordinary, something out of the daily teaching experiences. Karin feels that she is in line with her thoughts of being a good teacher. She also expresses a balance in being both a leader and a participant of the group. She is in control of the situation and her agency is strong.

In summary, her construction of a teacher identity includes the idea that learning should be fun, to have good relations with the students, make place for every student, structure teaching in a good and understandable way, and being a democratic leader. She also mentions that these students were well-motivated and interested from the start, so she did not have to make an effort to motivate them. Reading the whole piece of text, one gets a feeling that this situation has strengthened her incoming beliefs of what a teacher is, something that raises thoughts of prior doubts she has had in her construction of teacher identity. Here one can only ponder, but it is not a presupposition to think that the students are not always motivated, and their struggles with both the content and the new language, can maybe affect the feeling of joyfulness in learning. Some students need much help from the teachers, and it cannot be easy to fulfill all the needs from the students, seeing and listen to everyone and simultaneously be interested in their full life story. When succeeding in this lesson, Karin is strengthened in her teacher identity, thinking that she can keep her thoughts, feelings and beliefs.

The most visible superior tension in Karin's narrative is connected to the frames in other, more ordinary classroom situations with larger groups. Without losing her ideal in sight, she must figure out how to stay with them in ordinary classroom

situations or how to make some adjustments in her beliefs. There are also indications of struggles of how to combine personal identity with teacher identity. Her personal identity includes being interested in the whole person in front of her, something that is not possible, and perhaps not even eligible, in all teaching/learning situations.

3.2 STUDENTS' AND TEACHERS' RESPONSIBILITIES

Sandra's narrative is partly connected to Karin's, dealing with frames of the teaching profession. Besides her student role, she also works as a teacher in some courses. In her log post she describes the first meeting with a group of adult students and ends with this reflection:

> *I think about closeness and distance that we referred to in the beginning of the vocational teacher education. Words that are important to understand both in the profession of a nursing assistant and a teacher. Finding one's limit for what feels comfortable and doable. Many times, I have had such difficulties in my profession as a nursing assistant, not visible for patients and users of health care services, but in my inner self. I think I need to be watchful of that. Think I need to find a way to place the bar to a reasonable level and do it from the start, when I make the first impression. Difficult, but I believe it is essential.*

From her previous experiences, Sandra is aware of her wish to do everything to help the people she is responsible for, and consequently the treat it can be for a sustainable working life. In other words, she is aware of her difficulties to make boundaries in her

professional life. She also means that it is important to clarify for the students who is responsible for what from the start. In this quote she develops this aspect and gives some examples of how teachers' willingness to help the students can lead to an excessive workload.

> *My mentor and I have discussed the importance of the first meeting during prior periods of internship. That you as a teacher state the level as to how the period with the students will be formed. Certainly, I realize the importance of this, that you at the time show you are there to guide the students through their education. To make the students understand that you are there as a guide, but that they will have to do the work by themselves. A delicate balancing act where I think it is easy to be that teacher who sets up in wet and dry, the teacher who answers the late mobile call, the teacher that finds a gap in her schedule to give a student the fourth opportunity to succeed in the test in Emergency Care, the teacher who feverishly looks for the general formulations or for that matter nuanced formulation in the students' submission work.*

Student teachers with a background in health care can probably have more difficulties in setting limits in working life, because the professional focus of an ethical approach and a human behavior. Further, many individuals in health care have perhaps constructed "caring" personal identities and because of that chose a health care profession. A tension between their personal and teacher identity can contribute to their struggling. In a later log post, after a breakdown, Sandra describes herself in a precise manner:

I find it difficult to set a framework for my own responsibility regarding most things in life. I feel good about helping others, have a need to be needed, driven by pleasing my surroundings. I know it is not healthy, but I do not have the ability to change my behavior myself. I have tried saying no, but it creates an even more uncomfortable feeling in me. The feeling of the bad conscience.

Sandra describes herself as the classical "good girl", well described in gender research, where girls are hardworking and strive to make everyone happy (Elvin-Nowak & Thomsson, 2012; Hirdman, 2001; Holmberg, 1993; Renstig & Sandmark, 2005). Sandra's incoming beliefs are that the teaching profession is demanding because of all the needs from the students. She is not rejecting these needs and the importance of sensitivity and adherence for a teacher, but her experience tells her that her challenge is to be sensitive and compliant in a sustainable way. Her agency, visible in her reflecting narratives, is important to deal with her feelings of stress and pressure. But the pressure from students, colleagues and school administration must also be at a reasonable level, otherwise it could be difficult to reach the desired balance. During this time, when Sandra combined her studies with part-time work at the internship school, the headmaster supported her in a good way when she experienced difficulties in her attempts to maintain boundaries. She is still working as a teacher. Her ability to identify the problematic aspects and reflect on her behavior have probably been an asset, as well as her calls for help when she felt overloaded.

Pernilla is another student who is struggling with the line between her and her students' responsibilities. Unlike Sandra,

it is not primarily about how she should avoid burning out, but more about finding an acceptable level where she as a teacher believes she has done everything within her potential. She does not explicitly express that her incoming beliefs are that teachers should motivate students, make them interested and successful, but these ideals make sense of her struggles and feelings of failure. In this log post she describes her work with some students in youth education (16–19 years).

> *This week, I have been sitting with several students and tried to steer up their work, making work and time plans of how to catch up and not fall behind, also in other subjects. I try to structure and cooperate with the student and different teachers, what must be done, when must it be done [...] so all moments are clear [...] All students are always very relieved and positive when we have made these plans. However, it is seldom that anything happens. In the end, the student must do the job himself. It will not happen by itself. I think it is difficult to work with the motivation of these students. Common for all of them is that they struggle with different private concerns. When I have arranged for them to get professional help to solve the problems via the student health services, I sometimes feel powerless about how I will manage to bring motivation that lasts until we see each other in next lesson!*

Pernilla expresses feelings of resignation and disappointment because despite all her efforts, the students don't manage to fulfill their commitments. This feeling of resignation raises self-reflections of when she can claim that it is beyond her ability to affect the outcome. Her experiences have made it clear that despite good intentions and a great work effort, she can fail. The

tension is between her incoming belief of the teachers' responsibility to motivate students versus accepting a partly revised version of this belief. In the log posts, Pernilla's efforts to find new appropriate strategies are visible, something that indicates the awareness of her position as a new teacher. Before she can calm down, she must try different ways to create student motivation. Sometimes she feels successful, like in this case in which she describes a specific student and a new strategy.

> *We have reflected much on a student in the second grade. He/she is in the fifth year and third program in upper secondary school. An alert and teachable student, but with miserable presence statistics and with clear difficulties to submit assignments in time, or at all. I have met this student during all internship periods in different courses and it is always the same show. The student doesn't have any special needs or learning disabilities, and we have adjusted teaching and assignments in cooperation with the student in ways we believed in, but it has not been fruitful.*

After this review, Pernilla describes that she has changed the order of lessons in a course, where this student participated. This time, Pernilla started the introduction of the course in the practical exercise room with practical exercises and controls connected to stroke and other neurological diseases. Afterwards, she presented the theoretical parts as anatomy and pathology. She continues:

> *I feel that I have succeeded in reaching this student in a much better way, from the start, by this order. His last assignment, when working like this, kept a much better quality – and it was*

nearly submitted on time. It remains to be seen how the submission will be this time. I hope I have cracked the code of how to reach this student with knowledge!

Since this was Pernilla's last log post, we don't know the continuing story. Probably, there is not a formula that works all the time. However, her agency led to a successful strategy, and at least in this moment, she overcame the barriers. Further, it is obvious that Pernilla's teacher identity includes a great ability to adapt to student needs.

In summary, both Sandra and Pernilla are struggling with the division between teachers' and students' responsibilities. Sandra's struggles are more about "life and death", to survive as a teacher, while Pernilla tries to do her best to fulfill expectations of being a "good" teacher in her own and other's eyes. For both of them, the tension is to construct a teacher identity where care for and adaptation to students are combined with the necessary boundaries and requirements. The fear, visible in Pernilla's story, is that she hasn't done everything she can for the student, but she is also aware of her limited influence if the students don't fulfill the agreements, as opposed to Sandra, who only expresses fear of being too compliant. Their narratives are characterized by strong emotions of both joy and resignation.

3.3 STUDENT INFLUENCE

While the prior log posts were concerned with frames and didactic reflections, Linda´s reflections are more didactic, concerning how to organize and implement group work. She has initially asked the students what theme they would like to work

with and how. The students then chose to work with bowel diseases in self-elected pairs. Linda explain her strategy like this:

> "... I tried a new way to divide into groups, and I thought it would be interesting to see if it would work. My mentor has told me if some students work together, nothing will be done, they just fool around. That's why I thought I would let them choose their work partner and still manage the work. I told them that they had got my trust and that I wanted to see that they could carry out the work. I could see that the students were happy when I told them they would choose their partners.

Despite her mentor's advice, Linda decides to let the students work in self-elected pairs. There are several aspects connected to this decision, not only an incoming belief that the students will work better when they work with their friends. Her decision includes both beliefs of the importance of student participation and creating good relationships with the students. Furthermore, she wants to show that she believes in the students' capacity. She continues:

> I feel a bit nervous but also curious about how the work has gone. This week, the groups will present their work, so it will be very interesting. Somehow, it's also a proof of their acceptance of me as a teacher, I think. If they don't accept me, or what I have told them, that I have given them my trust, they can ignore the work. I could have chosen to make the groups myself, but I thought if this would work, it could create a good relationship between us. I do something for them, and they do something for me.

In this part, Linda mostly talks about her relationship to the students. Furthermore, the text explains the decision to overrule the mentors' advice. Linda is still a new person for the students, and perhaps she is somewhere between a teacher identity and a student identity. By this concession, she shows her willingness to approach the student world and be on their side, building an alliance. But she also finishes this part by talking about her expectations from them – "I do something for them, and they do something for me". In a wider perspective, Linda's statement can be seen as asking for the students' help to gain access to the teaching profession.

In the following log post, Linda evaluates the work. There have been some complications. Some misunderstanding led to a situation where two groups had prepared for the same question, which resulted in one girl refusing to present the pair work. She left the class room in an angry mood, something Linda thought was unpleasant and difficult to handle. When Linda evaluates the group work strategy, she considers that the situation with the girl leaving the classroom could possibly have happened during any lesson. She continues her summarizing description:

> *Every group had done their work, but the result varied, some had just scratched the surface while others had made good Power Point presentations. I asked some easy questions to each group after the presentation, related to the disease they presented, but not many could answer the questions. One group did not present at all. One girl had some excuse every time for not being able to present, from no battery in the computer to all papers at home. After giving her so many opportunities, we had to go on because there would be a test afterwards.*

As she describes, there have been some incidents and when she controls their knowledge they can't answer. This raise the question of what they have learnt. During her evaluation, she states:

> *Well, how did I think it went out? Overall, I think it went well. I imagined that the time the groups would spend on their work and presentations would differ, and so it was. However, I hadn't expected that a girl would make up so many excuses to avoid presenting. [...] I was not discouraged by the result and I will certainly try this again. I think the students think the teaching is funnier if they are involved in the decisions. However, what I can do better is to have better control of how they plan their work. I can stay with the groups for a while to see that something really happens, and what information they find.*

Despite some disappointments in the outcome of the group work, Linda does not abandon her beliefs of the importance of student influence in group making, nor does she question the group work as a teaching method. One can see that Linda's incoming beliefs remain, and she only writes about some adjustments in the process of the group work, concerning being a more present guide.

In summary, in Linda's construction of teacher identity, some parts are visible: her willingness to give the students influence and show them confidence and her wish to build alliances and relationships. From these aspects, she seems to feel successful, despite some deficiencies in knowledge and presentations. Only the girl with many excuses disturbs the picture of shared trust. The tension and conflicting identities concern the balance of

being both an authority and a democratic leader. A modern teacher has to combine these aspects, but the decision where to place the main point may vary, both in general and in specific situations.

4. CONCLUSIONS AND DISCUSSION

The most valuable result in this study is the insight that many student teachers really do use the log post assignment to deal with problems they face in the internship and in these processes, constructions of teacher identities are visible. In line with prior research, their ideas and beliefs connected to their actions are part of their narratives (Ruohotie-Lyhty, 2018; Izadinia, 2018; Hahl & Mikulec, 2018). In other words, they are dealing with combining ideals and visions with actual realities in a balancing act (cf. Beijaard, Meijer & Verloop, 2004; Sfard & Prusak, 2005). In line with prior research, the reflections and assessment of their own performances may lead to development, finding sustainable paths of teacher qualities. Eutsler and Curcio (2019) claim that the systematic use of private blogs in teacher education led to deeper reflections and increased ability to connect between course content and internship experiences. This means that teacher educators contribute to constructions of teacher identities by offering opportunities for reflection.

One tension in these selected log posts concern what kind of teaching, goals and student relationships a teacher can have in different types of group settings. Other tensions relate to finding balance between teacher and student responsibility and between a democratic leadership versus being an authority. These tensions also illustrate conflicting teacher identities,

not from a black-and-white perspective but rather decisions of where you want to be along a scale. An example can be in relation to adaptation to students or democracy in the classroom. In line with this, adjustments in beliefs are not common. As an example, Linda stays with her beliefs despite shortcomings in the group work, and the adjustments that are made are not about abandoning her underlying beliefs but more about finding better strategies to fulfill them. Karin's successful lesson with the small group of motivated students helps her adhere to her own ideals despite prior perceived struggles. The only clear sign of minor adjustments of beliefs is Pernilla's reflections of student responsibilities. Her incoming beliefs seem to weigh heavily on teachers' responsibilities but after her internship experiences, she questions how far this responsibility extends. However, these results may not challenge the idea of adjustments of the teacher identity through narratives. A longitudinal study, following student teachers over time, would be a better instrument. Another influential factor, besides the time perspective, are that the students are in the end of their teacher education and probably need the sense of a stable teacher identity. Throwing beliefs and ideals away could easily threaten the feeling of stability and further the manageability. It is partly reminiscent of work by Akkerman and Meijer (2010) who claim that constant self-dialogue upholds the unity of a self despite multiple dimensions and tensions.

In these log posts, strong feelings are visible. Researchers have emphasized the influence of emotions in the construction of teacher identities (Beauchamp & Thomas, 2009; Hargreaves, 1998; Schutz, Nichols & Schwenke, 2018) and this study strengthens this thesis. Emotions are connected to feelings of

professional success and failure, of manageability and uncon-trollability. As Hahl and Mikulec (2018, p. 53) summarize their findings: "... the development of a teacher identity is the result of an active process of successes and challenges ...". Teacher edu-cators can help student teachers realize that failures are also a part of the natural process of becoming a teacher. It is important however, that the failures and shortcomings don't dominate this process. Day (2018, p. 68) argues that "to succeed over time as professionals, teachers need to have and sustain a positive sense of professional identity".

This study gives no insight in influential factors to students' beliefs about what characterize a good teacher, but the question can still be discussed. Hahl and Mikulec (2018) stress that influ-ential factors were the students' own previous experiences and their reasons for becoming a teacher. Grace, Horn and Bobbitt Nolen (2018) use the concept "motivational filters" to explain student teachers' engagement or resistance to different ideas and teaching practices. In a study of Nolen et al (2009), they found that student teachers made active decisions of what to learn based on how useful and feasible the practices seemed to be. The motivational filters entail ideas of good teaching, rooted in personal experiences, and conceptions of students and teach-ing, and can differ from or be aligned with other teachers. In line with this argumentation, it is necessary for the teacher educa-tor to make links between theory and practice to make student teachers engaged in learning.

Another way to discuss this matter of influential factors to beliefs, is by using the concept "vocational habitus", in other words, the influence of the prior vocation (Colley, James, Tedder & Diment 2003; Eliasson, 2019; Rehn & Eliasson, 2015). Work-

ing as nurses and nursing assistants in health care in Sweden implies being included in a strong discourse of humanism and focus on an empathetic response and attitude towards patients (Rehn & Eliasson, 2015; Ahnlund, 2008). Obviously, the four student teachers in this study have all constructed strong caring teacher identities. Somewhat simplified, one can argue that theoretical courses in the vocational teacher education often strengthens the idea of the student in the center of the teaching. Without denying this idea, one can wonder if the idea of the patient/student in the center strengthen each other and make it more difficult for student teacher of health care to deal with boundaries and being authorities. Implications for vocational teacher education could be both emphasizing responsiveness to student needs and a clear leadership.

Some implications for teacher education are already mentioned, as the importance of offering opportunities of self-reflection and making links between theory and practice. Further, in a study by Meijer and Oolbekkink-Marchand (2009), it's shown that student teachers felt they learned most when they engaged in collaborative meetings, where they discussed teachers' responsibilities (in line with Pernilla's and Cecilia's reflections). This means that discussions, in real life or virtually, where questions of how to be someone who teaches, not just about how to teach, is important. The model, presented by Schutz et al (2018), could also be helpful in creating awareness of one's own incoming beliefs, tensions and attributions. Awareness of incoming beliefs could also be a starting point of questioning stereotypes, e.g. conceptions of gender and ethnicity (cf. Grace et al, 2018). Finally, student teachers' log posts give valuable insight in struggles and actual situations at schools and in

working places, useful in the connection between theory and practice in the theoretical courses.

The tensions and conflicting teacher identities, visible in this study, are to a great extent general for the teaching profession. Other selection principles, for example focusing on the student teachers' cooperation with mentors at the working places would have resulted in findings more specific for vocational teachers. However, the intention to search for tensions and conflicting identities, led to classic teacher dilemmas. Suggestions for further research are to focus on conflicting identities connected to the vocational part of the teaching profession, a knowledge field which has interested some researchers (Fejes & Köpsén, 2014; Köpsén, 2014; Korp, 2012; Farnsworth & Higham, 2012), but still has many unexplored areas.

REFERENCES

Ahnlund, P. (2008). *Omsorg som arbete. Om utbildning, arbetsmiljö och relationer i äldre- och handikappomsorgen.* [Care Work as Labour. Education, Work Environment and Relationships in Elderly Care for Persons with Disabilities]. PhD diss., Umeå University.

Akkerman, S. F., & Meijer, P. C. (2011). A dialogical approach to conceptualizing teacher identity. *Teaching and Teacher Education*, *27*(2), 308–319.

Arvaja, M. Building teacher identity through the process of positioning. *Teaching and Teacher Education*, *59*, 392–402.

Beauchamp, C., & Thomas, L. (2009). Understanding teacher identity: an overview of issues in the literature and implications for teacher education. *Cambridge Journal of Education*, *39*(2), 175–189.

Beijaard, D., Meijer, P. C., & Verloop, N. (2004). Reconsidering Research on Teachers' Professional Identity. *Teaching & Teacher Education: An International Journal of Research and Studies*, *20*(2), 107–128.

Brophy, J. (2008). Scaffolding appreciation for school learning: an update. In: Martin, L. M., Karabenick, S. A., & Urdan, T. C. (eds.), *Sociological psychological perspectives: advances in motivation and achievement, Volume 15*. London: Emerald Group Publishing Ltd.

Christensson, J. (2019). "This is where my inner history teacher appears": a methodological approach to analysing student teachers' professional identity in interaction. *Classroom Discourse*, (2), 168–187.

Colley, H., James, D., Tedder, M., & Diment, K. (2003). Learning as Becoming in Vocational Education and Training: Class, Gender and the Role of Vocational Habitus. *Journal of Vocational Education and Training*, 55(4), 471–497.

Clarke, M. (2018). The Indispensability and Impossibility of Teacher Identity. In Schutz, P. A., Hong, J., & Francis, D. C. (eds.), *Research on Teacher Identity: Mapping Challenges and Innovations*, 217–227.

Day, C. (2018). Professional Identity Matters: Agency, Emotions, and Resilience. In Schutz, P. A., Hong, J., & Francis, D. C. (eds.), *Research on Teacher Identity: Mapping Challenges and Innovations*, 61–70. Cham: Springer International Publishing, 2018.

Dewey, J. (1910). *How we think.* London; D.C. Heat and Company.

Eliasson, E. (2019). Att undervisa för utveckling av yrkeskunnande i vård och omsorg [Teaching for development of vocational knowledge in health care]. *Nordic Journal of Vocational Education and Training*, 9(1), 66–88

Eliasson, E. & Rehn, H. (2017). Health and social care teachers' descriptions of challenges in their teaching at upper secondary school. *Nordic Journal of Vocational Education and Training*, 7(1), 42–63.

Elvin-Nowak, Y., & Thomsson, H. (2012). *Att göra kön. Om vårt våldsamma behov att vara kvinnor och män.* [Doing gender. About our violent need to be women and men]. Stockholm: Bonnier.

Fejes, A., & Köpsén, S. 2014. "Vocational Teachers' Identity Formation through Boundary Crossing." *Journal of Education and Work,* 27(3), 265–283.

Grace A. C., Horn, I. S., & Bobbitt Nolen, S. (2018). Engaging Teacher Identities in Teacher Education: Shifting Notions of the "Good Teacher" to Broaden Teachers' Learning. In Schutz, P. A., Hong, J., & Francis, D. C. (eds.), *Research on Teacher Identity: Mapping Challenges and Innovations*, 85–95. Cham: Springer International Publishing, 2018.

Eutsler, L., & Curcio, R. (2019). Private blog reflections connecting course content with field experiences: preservice teachers grapple with teacher identity. *Reflective Practice*, 20(2), 250–265.

Farnsworth, V. & Higham, J. (2012). Teachers who teach their practice: The modulation of hybridized professional teacher identities in work-related educational programmes in Canada. *Journal of Education and Work,* 25(4), 443–505.

Hahl, K., & Mikulec, E. (2018). Student Reflections on Teacher Identity Development in a Year-Long Secondary Teacher Preparation Program. *Australian Journal of Teacher Education*, 43(12), 42–58.

Hargreaves, A. (1998). The Emotional Practice of Teaching. *Teaching and Teacher Education* 14(8), 835–854.

Hattie, John (2008). *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement.* NY: Routledge.

Hirdman, Y. (2001). *Genus – om det stabilas föränderliga former.* [Gender – about the changed forms of the stable]. Malmö: Liber.

Holmberg, C. (1993). *Det kallas kärlek – en socialpsykologisk studie om kvinnors underordning och mäns överordning bland unga jämställda par.* [It's called love – a sociopsychological study of women's subordination and men's superiority among young equal couples]. Stockholm: Alfabeta Förlag.

Håkansson, J., & Sundberg, D. (2012). *Utmärkt undervisning. Framgångsfaktorer i svensk och internationell belysning.* [Excellent teaching. Success factors in Swedish and international research]. Stockholm: Natur & Kultur.

Izadinia, M. (2018). Mentor Teachers. Contributions to the Development of Preservice Teachers' Identity. In Schutz, P. A., Hong, J., & Francis, D. C. (eds.), *Research on Teacher Identity: Mapping Challenges and Innovations*, 109–119. Cham: Springer International Publishing, 2018.

Jennings, P. A., & Greenberg, M. T. (2009). The Prosocial Classroom: Teacher Social and Emotional Competence in Relation to Student and Classroom Outcomes. *Review of Educational Research*, *79*(1), 491–525.

Korp, H. 2012. "Identitetserbjudanden och lärare-elevrelationen." [Identity and the Teacher-student Relationship]. In I. Henning Loeb & H. Korp (eds.), *Lärare och lärande i yrkesprogram och introduktionsprogram* [Teachers and Learning in Vocational Education], 95–112. Lund: Studentlitteratur.

Köpsén, S. 2014. "How Vocational Teachers Describe their Vocational Teacher Identity." *Journal of Vocational Education and Training,* 66(2), 194–211.

Meijer, P. C., & Oolbekkink-Marchand, H. (2009). Tracing learning in collaborative reflection meetings of student teachers. In C. J. Craig, & L. F. Deretchin (eds.). *Teacher learning in small-group settings (Teacher Education Yearbook XVII)*, pp. 178–199. Lanham, Maryland: Rowman & Littlefield.

Miller Marsh, M. (2002). The shaping of Ms. Nicholi: the discursive fashioning of teacher identities. *International Journal of Qualitative Studies in Education (QSE)*, *15*(3), 333–347.

Nolen, S. B., Ward, C.J., Horn, I. S., Childers, S., Campbell, S. S., & Mahna, K. (2009). Motivation development in novice teachers: The development of utility filters. In M. Wosnitza, S. A. Karabenick, A. Efklides, & P. Nenniger (eds.), *Contemporary motivation research: From global to local perspectives* (pp. 265–278) Ashland, OH: Hogrefe & Huber.

Olsen, B. (2008). Teaching what they learn, learning what they live. Boulder, CO: Pardigm Publishers.

Rehn, H., & Eliasson, E. (2015). Caring disposition and subordination. Swedish health and social care teachers' conceptions of important vocational knowledge. *Journal of Vocational Education & Training*, (4), 558–577.

Renstig, M., & Sandmark, H. (2005). *Sjuka karriärkvinnor – En kvalitativ studie kring orsaker till att högavlönade kvinnor i storstäder blir långtidssjukskrivna*. [Sick Career Women – A qualitative study of the reasons why high-paid women in big cities get long-term sick leave]. Stockholm: Karolinska institutet, Institutionen för folkhälsovetenskap.

Ruohotie-Lyhty, M. (2018). Identity-Agency in Progress: Teachers Authoring Their Identities. In Schutz, P. A., Hong, J., & Francis, D. C. (eds.), *Research on Teacher Identity: Mapping Challenges and Innovations*, 25–36. Cham: Springer International Publishing, 2018.

Sachs, J. (2005). Teacher education and the development of professional identity: Learning to be a teacher. In P. Denicolo & M. Kompf (eds.), *Connecting policy and practice: Challenges for teaching and learning in schools and universities,* 5–21. Oxford: Routledge.

Sfard, A., & Prusak, A. (2005). Telling Identities: In Search of an Analytic Tool for Investigating Learning as a Culturally Shaped Activity. *Educational researcher*, 34(4), 14–22.

Schutz, P. A., Francis, D.C. & Hong, J. (2018). Research on Teacher Identity: Introduction to Mapping Challenges and Innovations. In Schutz, P. A., Hong, J., & Francis, D. C. (eds.), *Research on Teacher Identity: Mapping Challenges and Innovations*, 3–9.

Schutz, P. A., Nichols, S. L., & Schwenke. S. (2018). Critical Events, Emotional Episodes, and Teacher Attributions in the Development of Teacher Identities. In Schutz, P. A., Hong, J., & Francis, D. C. (eds.), *Research on Teacher Identity: Mapping Challenges and Innovations*, 49–60. Cham: Springer International Publishing, 2018.

Schön, D. (1983). *The reflective practitioner. How professionals think in action.* New York: Basic Books.

Watson, C. (2006). Narratives of Practice and the Construction of Identity in Teaching. *Teachers and Teaching: Theory and Practice*, *12*(5), 509–526.

VET trainers in the market
of adult education

Sofia Antera[*]

Abstract: Noting that vocational teachers are perceived as highly influential not only in the learning process, but also in the general development of vocational education and training (VET) they are set in the centre of this chapter. While in many countries the profession of vocational teachers is highly regulated, Sweden allows a relative freedom to school principals in selecting the teachers suitable for their institutions. This legislative particularity compared with the low percentage of pedagogically qualified vocational teachers creates room for the question of what vocational teachers are competent in and what competence is needed to be a vocational teacher in Sweden. In this chapter I review and reflect on previous literature and studies with similar focus, with aim to identify gaps and areas for further development and research. Allowing the voice of the teachers to be heard and displaying the perceptions of major stakeholders in the process of teacher professionalization is one step closer to reinforcing vocational teacher professional profile and moving towards quality education.

Keywords: vocational teacher, competence, adult education, professional development, workplace learning.

*   Correspondence: sofia.antera@edu.su.se

1. INTRODUCTION

Vocational education and training (VET) has been assigned with the duty to provide solutions to the approaching employment challenges of the European Union (European Commission, 2010) and vocational teachers are perceived as important actors in this process. My PhD study explores the professional competence and development of vocational teachers, with aim to show what it means to be a vocational teacher. Focusing on the views of the vocational school teachers and principals, the study seeks to outline what competencies teachers develop during their employment, examining the challenges encountered at the workplace and the opportunities for further learning.

In Sweden, the emphasis on vocational education and training has been translated as its expansion, especially in the field of adult learning (Fejes and Kopsen, 2014). At the same time, a shortage of teachers is identified, with vocational teachers being at the top of the list (Skolverket, ReferNet Sweden, 2016). In order to respond to the education needs, school principals often employ non-qualified vocational teachers, creating a contradiction with the VET policy that requires teacher certification for employment since 2010 (Swedish Parliament). As a result, a percentage of nearly 30 % of vocational teachers employed in municipal adult education (Komvux) are not pedagogically qualified (Skolverket, 2018).

In addition, VET provision seems to be designed considering mostly the regular schooling system, meaning secondary and upper secondary VET. No special arrangements are taken for adult education (Skolverket, ReferNet Sweden, 2016). Nevertheless, differences between the two systems are evident, not only in the teaching process but also in the system structure.

Research in the field of vocational adult learning in Sweden is limited, especially with focus on teacher competence (Fejes and Kopsen, 2014). However, as the provision of vocational programs in adult education is growing, a deeper insight is necessary to highlight the special challenges of the work life and map the competence needs of the teachers engaged in this professional practice.

1.1 BACKGROUND

My theoretical interest in the professional practice of vocational teachers stems from the contradiction identified in policy related to vocational teachers. The Education Act of 2010 (Swedish Parliament) introduced teacher certification as a requirement for teachers' employment. Nevertheless, policy related to vocational teachers still demonstrates ambiguities with regards to formal qualifications, while special arrangements are often made to cover urgent needs (Kopsen and Andersson, 2017). In other words, school principals are allowed to hire the staff they judge competent, with or without formal teacher training, if the employment is on a yearly basis, resulting in a percentage of only 67, 6% of vocational teachers being pedagogically qualified in Komvux (Skolverket, 2017). The percentage falls for male dominated programs (plumbers 33, 3%, automotive technicians 42,7%) and rises for woman dominated ones (children and leisure 96,3%, nursing 74%). In general the amount of non-qualified teachers is higher in schools that are not public (Skolverket, 2014). In this context, the professional identity of vocational teachers remains blur, with variations in relation to the working place conditions, the subject area of the vocational teacher and the type of education provider.

The fact that non-qualified teachers are employed in education institutions creates a space for research on their competence profile and the reasons behind its formation. What competencies are more often developed and to which demands they correspond? According to Skolverket´s report (2014), in several of the major vocational programs orientations principals stated that they have recruited professional teachers not fully complying with the school's skills needs, while the qualifications they have valued most in recruitment are subject relevant professional experience and interpersonal/communication competence. However, this report involved only upper secondary vocational schools, meaning that the situation in adult education is even less researched. Antera's study (2017), has provided some indications towards the same direction, highlighting that subject relevant experience and interpersonal/communication competence is the main recruitment criteria for principals in adult education as well.

For the PhD study, two groups of vocational programs are selected. Building and construction, vehicle and transport and industrial technology constitute the one group, while the other is health and social care. In terms of institutional units, both public and private Komvux centers are included since they present differences on the profile of the teachers they recruit.

2. COMPETENCE DEVELOPMENT AND WORKPLACE LEARNING

During the last decades work-based education and human resources have become the object of further research, since they are perceived as instruments to enhance productivity, growth

and competitiveness (Pfeffer, 1995; Rubenson and Schuetze, 1993). While literature is extent in both topics, the focus remains on success stories and has a normative character. A solid theoretical framework is missing. Instead, conceptual frameworks have been used. In this chapter, workplace learning is perceived as the phenomenon under study and the competence notion is used to express and describe the outcomes of the learning process.

Workplace learning can be both a conscious, structured process (formal learning) and/or an unintended, unconscious and incidental one (informal learning). The interplay between the two forms is inevitable not only in the workplace but generally in life. What is the reason for that strong connection though? According to Illeris (2004), formal education can better facilitate informal learning at the workplace. Since experiential learning requires the existence of both conceptual tools and explicit knowledge of the task and the work process, formal education can provide with these tools that support the identification and interpretation of learning experiences. Hence, experiential learning requires the existence of explicit knowledge provided by formal learning. Moreover, formal education should be supported by informal to raise its effectiveness.

Taking into consideration the above mentioned, it can be concluded that learning is realized in the workplace on a daily basis and as a correspondence to everyday challenges, which are related both to the occupational characteristics and the institutional environment. The starting point of learning is action (Illeris, 2004), however action alone cannot guarantee learning. The provision of structure and tools is also needed to make a learning opportunity more fruitful; thus formal and informal learning are combined.

Another important aspect of workplace learning is the interaction between the individual and its environment. Perceived as a social process that occurs while working, this interaction impacts both the individual and the environment in direct or indirect ways. In that sense, the acquisition process is the result of situated learning (Illeris, 2004). The working environment serves as the framework of learning, the working practice is the learning opportunity and the individual is the learner. The interplay between these aspects is fundamental and it becomes more complicated as the influence of the learner on the other aspects rises (for example due to high participation in decision making).

Understanding workplace learning is as hard as measuring it, especially with reference to its interactive dimension. Competence has been used for identifying learning needs and facilitating learning provision at work (Thomson and Mabey, 1994). In the context of workplace learning, the competence notion is associated with the job tasks rather than with performance standards, hence I explore the competence developed in relation to tasks and workplace challenges. Nevertheless, this study tries to grasp a part of workplace learning, focusing in knowledge acquisition, skill development and attitude adoption by vocational teachers, in an attempt to describe the competence demands encountered in their workplace.

The discourse on competence definition has been vague and influenced by various scientific fields, like human resources and management, education and training and finance. Although the term gained more attention the last years, its meaning is still subject to different interpretations. Started as the "one best way" to fulfill a task (Taylor, 1911), it was later approached as the "ideal" combination of knowledge, skills and attitudes (Gorsline, 1996), often deriving from the performance of the personnel that was

judged as more effective (Garavan and McGuire, 2001). Moreover, competence receives its definitions in relation to the organization and more specifically its aims. Hence, some competence definitions are narrow and not easily transferable.

To avoid conceptual and terminological confusion, I have performed a conceptual analysis of *professional competence* for vocational teachers (Antera, forthcoming). The variety of the concept interpretations has been reviewed and discussed with aim to dissolve the confusion around it. Highlighting the existence of confusion and attempting to clarify the concept definition and use has been crucial in understanding the concept and the phenomenon under study. The conceptual analysis has shown that, only few studies include solid concept definitions, while most of them solely describe the components of competence and not its attributes. In addition, the analysis gave prominence to the professional competence attributes, highlighting its situated and developmental character as well as its relationship with action. In other words, professional competence is perceived as the individual potential to act towards a specific goal, however, this activity is defined by the given conditions (situated) and can be improved with practice (developmental); hence it can be learned.

Competence, described as a combination of knowledge, skills and attitudes is often split in required competence and actual competence. Required competence refers to the job description and is used as measurement of development in the workplace (Ellström, 1997). Actual competence is not easily measurable as it describes the potential capacity of an employee. Additionally, there is a third category, competence-in-use. This notion is influenced both by the competence that the worker brings

to the job, and by the job demands and characteristics. Hence, competence-in-use is a dynamic concept (Ellström, 1997) lying between the formal job requirements, the actual job needs and the individual potential.

The discussion around competence highlights the need to clarify what type of competence it looks for and from which perspective. Therefore, competence-in-use as it is perceived by major actors, teachers and principals is set in the locus. Competence is perceived as a combination of skills, attitudes, values and knowledge that support teachers in performing tasks in the degree that they meet the organizational aims. Furthermore, the situated and developmental character of competence is acknowledged as well as to its relation to action. Nevertheless, which are the important competencies for vocational teachers and why are they important? This question is hard to answer, especially without investigating the learning that occurs in the workplace. What challenges do teachers encounter and how do they correspond? What do they need to learn and what do they finally learn during their working life?

3. DISCUSSION

Supporting the professionalization and the development of vocational teachers requires the mapping of their current situation, raising the questions of what vocational teachers are competent in and what competence is needed to be a vocational teacher in Sweden. Relevant empirical data seems to be lacking. At the same time, theory can provide no clear explanation of what competence Swedish teachers have and why. Researching on vocational teachers´ competence contributes to a deeper

comprehension of the working reality in vocational schools and supports a better capture of the competence needed.

As Illeris (2004) stresses, formal and informal learning processes are in a constant interplay, that is to say the development of one better facilitates the other and vice versa. Is this reflected on the vocational teachers of Sweden? Since there is a population of teachers without teaching qualifications, it can be assumed that informal learning is sufficient for their competence development, whereas the support of formal learning structures might not be necessary. The Swedish case offers space for raising questions regarding the relationship between formal and informal learning as well as required and actual competence. The exploration of this relationship is applicable to the design of further vocational teacher training programs.

The concept of competence has been selected as a commonly discussed concept that is, however, still blur and ill defined. Nevertheless, the lack of a unanimous definition allows some plasticity of the concept enabling its (re)definition in relation to vocational teachers. The concept of competence is, hence, the end and the means. In other words, it is seen as a tool assisting the exploration of this case, and as an end, because through this exploration it is used, shaped and it receives its final form in relation to this specific group of professionals, the vocational teachers.

3.1 THE NEXT STEPS

In order to meet the above discussed objectives, I have adopted a mixed method approach. In the first place, a conceptual analysis (Tähtinen, and Havila, 2018) has been performed in an attempt to grasp the meaning of the professional competence of vocational

teachers. As a second step, questionnaires are to be designed, containing a set of competencies that have been identified in the literature as of importance for vocational teachers´ everyday tasks. The participants will be asked to evaluate the importance of the competencies in a Likert-scale. Finally, the questionnaires will be piloted and then distributed to the sample population.

The third step engages a qualitative method, interviews. Semi-structured interviews with teachers and school principals will be conducted with aim to unravel the views of these major stakeholders with regards to the learning process and outcomes. Interviews will be conducted individually, to provide a deeper insight in competence development processes and the reasons behind them. This qualitative focus on processes assists in demonstrating the emergence of new patterns related to the role of specific competencies in the daily work life (Bryman, 2012).

Finally, the sampling includes two groups of vocational programs; building and construction, vehicle and transport and industrial technology constitute the one group, while the other is health and social care. Although all programs are vocational and offered by Komvux, they demonstrate differences in their nature and in relation to vocational teachers. Moreover, the programs are selected based on the number of qualified teachers they involve. Also, they differ in terms of gender domination and in the average cost for their provision (Skolverket, Refer-Net Sweden, 2016).

In order to ensure confidentiality and anonymity, the researcher is bound to not reveal any information that can draw a direct connection to the participants (Bryman, 2012). Moreover, pseudonyms will be used and the informed consent of the participants will be ensured.

REFERENCES

Andersson P, Köpsén S, Larson A, Milana, M. (2013). Qualification paths of adult educators in Sweden and Denmark. *Stud Contin Educ* 35, 102–118.

Andersson, P. and Köpsén, S. (2015). Continuing professional development of vocational teachers: participation in a Swedish national initiative. *Empirical Research in Vocational Education and Training*, 7(1).

Antera, S. (2017). Adult educators' competences. The principals' view: A comparative study of Komvux and Folk high schools in Sweden (Master Thesis). Stockholm University. Available at http://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1112335&dswid=870

Antera, S. (forthcoming). Professional competence of vocational teachers: a conceptual analysis. Manuscript submitted for publication.

Bray, M., Adamson, B. and Mason, M. (2007). *Comparative Education Research: Approaches and Methods*, Hong Kong: The University of Hong Kong.

Bryman, A. (2012). *Social research methods*. Fourth edition. Oxford: Oxford University Press.

Ellström, P. and Kock, H. (2008). Competence development in the workplace: concepts, strategies and effects. *Asia Pacific Education Review*, 9(1), 5–20.

Fejes, A. and Köpsén, S. (2014) Vocational teachers' identity formation, *Journal of Education and Work*, 27(3), 265–283.

Garavan, T. and McGuire, D. (2001), Competencies and workplace learning: some reflections on the rhetoric and the reality, *Journal of Workplace Learning*, Vol. 13 No. 4, pp. 144–164. https://doi.org/10.1108/13665620110391097

Gorsline, K. (1996). A competency profile for human resources: No more shoemaker's children, *Human Resource Management*, 35(1), 53–66. doi: 10.1002/(sici)1099-050x(199621)35:1<53::aid-hrm4>3.0.co;2-w

Illeris, K. (2004), A model for learning in working life, *Journal of Workplace Learning*, Vol. 16 No. 8, pp. 431–441. https://doi.org/10.1108/13665620410566405

Köpsén, S. and Andersson, P. (2017). Reformation of VET and demands on teachers' subject knowledge – Swedish vocational teachers' recurrent participation in a national CPD initiative, *Journal of Education and Work*, 30 (1), 69–83. DOI: 0.1080/13639080.2015.1119259

Pfeffer, J. (1995), People, capability and competitive success, *Management Development Review*, Vol. 8 No. 5, pp. 6–10. https://doi.org/10.1108/09622519510771942

Rubenson, K., and Schuetze, H. (1993). Learning at and through the workplace. A review of participation and adult learning theory. In OECD, *What Makes Workers Learn?* Cresskill, NJ: Hampton Press.

Skolverket. (2014). *Yrkeslärare per program*. Stockholm: Skolverket. Retrieved from https://www.skolverket.se/download/18.6bfaca41169863e-6a65b2c8/1553965814233/pdf3319.pdf

Skolverket (2016). Supporting teachers and trainers for successful reforms and quality of vocational education and training: mapping their professional development in the EU – Sweden. Cedefop ReferNet thematic perspectives series. Retrieved 15 February 2018 from

http://libserver.cedefop.europa.eu/vetelib/2016/ReferNet_SE_TT.pdf

Sök statistik om förskola, skola och vuxenutbildning – Skolverket. (2018). Retrieved from https://www.skolverket.se/skolutveckling/statistik/ sok-statistik-om-forskola-skola-och-vuxenutbildningn

Swedish Parliament (2010). Education Act. https://www.riksdagen.se/sv/ Dokument0-Lagar/Lagar/Svenskforfattningssamling/Skollag-2010800_ sfs-2010-800/ (in Swedish).

Taylor, F., W. (1911). *The principles of scientific management*, HarperCollins and Norton, New York, NY.

Thomson, R. and Mabey, C. (1994). *Developing human resources*, Butterworth-Heinemann, Oxford.

Tähtinen, J., and Havila, V. (2018). Conceptually confused, but on a field level? A method for conceptual analysis and its application. *Marketing Theory*, 147059311879667. doi: 10.1177/1470593118796677

Section III:

Frame factors and leadership

The complexity of research in the field of vocational education and training (VET) and the various problems in focus is well illustrated in the contributions that forms this section. Under the umbrella term 'frame factors' the texts included highlight different issues that frame and influence the development of the field in different contexts.

The contribution by Petros Gougoulakis is highlighting Education for Sustainable Development from the perspective of teacher education using, as a case study, the vocational teachers training program in Sweden. The discourse on sustainability is set in the context of current societal trends and the change in the tempo of modern social life. Critical reflections on the potential of ESD are presented in the closing part of the article. The text by Alex Cuadrado looks into the important concept of 'employability' as a link between education and the labour market. Using critical discourse Swedish and Catalan contexts are analysed with focus on the discourses of vocational educational policy through the analytical categories of *representations of the world*, *social order*, and *social identity*.

Dual education has become a target to reach in very different national VET systems. The text by Jesús Alemán Falcón, María A. Calcines Piñero and Lázaro Moreno Herrera analyses the developments and tensions in the attempts to introduce a dual system in the context of the Canary island. This research work could be of particular interest in different contexts where sim-

ilar attempts are underway. The text by Carine Cools, Johanna Lasonen and Marianne Teräs adds to the picture of the complexities in the VET research field by investigating the challenges that immigrant women face at their workplace in Finland, regarding language and interaction. In focus were investigating how highly educated immigrant women assess their Finnish language skills and perceive the social interaction at the workplace. Findings showed that women evaluated their Finnish language skills positively and built strategies to manage social interaction.

This section concludes with the text written by Niclas Rönnström and Pia Skott analyzing the narratives of Swedish principals in VET as they face the challenges and growing expectations of embracing (instructional) leadership for teaching and learning in their work. In the first part, the growing global interest in school leadership for teaching and learning, or instructional leadership, and its growing institutionalization is discussed. Rönnström and Skott suggest that school leadership in vocational education and training is often subject to organizational hyper-complexity, and that effective school leaders in vocational education and training must be able to manage a variety of intermingling tasks and contexts in their schools.

Educating teachers for sustainable development

Petros Gougoulakis[*]

Abstract: Indeed, sustainability and sustainable development are the catchwords of our time. As a starting point for a scholarly conversation on Education for Sustainable Development (ESD), the presentation here is approaching ESD from the perspective of teacher education. When we refer to teacher education, we are mainly moving within a Swedish context and using, as a case study, for the sake of exemplification, the vocational teachers training program. Initially, the discourse on sustainability is set in the context of current societal trends, experiences of social acceleration and changes in the tempo of modern social life. After that, a review is made of how the Curriculum for upper secondary school as well as the Education Plan for teacher education address SDE and whether it provides sufficient and unambiguous guidelines for teachers and school leaders to work for sustainable development in a sustainable way. The chapter concludes with some reflections about the transformative potential of ESD.

Keywords: social acceleration, ESD/education for sustainable development, transformative learning, emergent phenomena, sustainability paradox

*   Correspondence: petros.gougoulakis@edu.su.se

1. CHANGE AND SUSTAINABILITY IN THE WAKE OF SOCIAL ACCELERATION – INTRODUCTORY CONCEPTUAL ORIENTATION

Particular focus in this review will be laid on the normative/ethical foundation of the Swedish national curriculum for upper secondary school and the educational plan for the Vocational Teacher Education Program in Sweden's Higher Education Institutions. It is considered of significant educational value to further elucidate what didactical approaches are sustainable for promoting a sustainable learning and a sustainable lifestyle. But let's start by putting things in a context of current social change.

Many thinkers, mainly philosophers and sociologists, tried and continue to analyse the character of the society in the course of time. Change seems to be the common denominator in their accounts. One such reference is Hartmut Rosa's theory of social acceleration, in which he distinguishes three forms of acceleration: the technological acceleration, evident in transportation, communication, and production; the acceleration of social change, reflected in cultural knowledge, social institutions, and personal relationships; the acceleration in the pace of life, which happens despite the expectation that technological change should increase an individual's free time (Rosa, 2013).

What Hartmut Rosa describes is modernity today in its later phase. Modernity is the period in the evolution of the Western world, characterized by intense diversification of societies, rationality, increasing use of tools and technology, privatization and economics/economism. Behind all these processes, a process of social accelerating takes effect, influencing them but is not identical with them. The social acceleration pro-

cess, consisting of the three mentioned forms or dimensions of acceleration, is dynamic and self-propelling; it is not influenced by external factors, but is cyclically replenished by the engagement of three forces ("engines"), which give impetus to it. These engines that are also the activating forces of modernity are: *the capitalist economy, the institutional constitution of the society* (the structural engine) with distinct differentiation and subsystems, and finally *the cultural engine* (the ideology) according to which we have been educated to perceive time as an investment ("Time is money"!).

The technological acceleration transforms our relationship with time and space, changes our habits and the way we perceive and organize our social relationships. It brings about social changes and a shrinkage of space-time, which, on the one hand, offers new opportunities and, on the other hand, creates a coercion for adjustment and pressure to keep track of developments. The acceleration of social change, therefore, puts intense pressure on the individual to increase the pace of life to stay in the race. We keep running to avoid being left behind. But as long as we run and do not get ahead, we are looking for new technologies to run even faster and the cycle is ... vicious!

Immanent to social acceleration processes are phenomena that prevent or actively resist the acceleration dynamics, such as natural speed limits that cannot be manipulated without affecting the quality of intended results.

A typical example is the limitations of the mental and other functions of the human organism or the time needed for natural resources to be reproduced. Another category of deceleration forces, according to Rosa, are the "oases of deceleration", which give the impression that time has stopped and everything seems

to be as it always was. This phenomenon is typically observed in self-contained environments and communities (eg. sects) that do not follow the accelerating pace of modernity.

Unintentional side effects often occur, which appear as slow-downs that cause dysfunctional phenomena, such as various burn-out-syndrome disorders.

Nevertheless, there are also intentional attempts to slowing down, often in the shape of resistance movements, ideological in nature. There should be a distinction here between 1) slow-down actions aimed at improving functionality and acceleration capacity, e.g. through temporary withdrawal or self-concentration and relaxation exercises to enable the individual to meet the increasing demands of professional life and daily life; and 2) resistance movements against acceleration flows that feature late modernity, which usually perceive anti-modernity facets.

Finally, another type of inertia includes the phenomena of "cultural and structural rigidification or crystallization" (Rosa 2013). These are other forms of deceleration that go hand in hand with social acceleration processes:

> *(T)hey are paradoxically closely connected to social manifestations of acceleration and have led to theories, such as those of the "end of history," the "exhaustion of utopian energies," "cultural crystallization" and the "utopia of the zero-option," that postulate a paralyzing standstill in the inner development of modern societies complementary to the diagnosis of an acceleration of social change.* (a.a., p. 89)

"Unplugging" oneself from technology, the proliferation of yoga and meditation, and the return to the "old ways" of wood-

working, fishing, hunting etc. are all ways to compensate the havoc that social acceleration causes our society. Some forms of deceleration can be healthy and others more malicious when opposing every kind of change.

The forces of social acceleration and deceleration are dialectical in relation to the modern time structure of the society; they are sometimes balanced and sometimes overpowered, resulting in either progressive dynamism or regression. Evidently, what modern social scientists attribute to modernity has even been ascertained or predicted by older thinkers. Interesting is the narrative of Marx and Engels in the Communist Manifesto:

> *The bourgeoisie cannot exist without constantly revolutionising the instruments of production, and thereby the relations of production, and with them the whole relations of society. Conservation of the old modes of production in unaltered form, was, on the contrary, the first condition of existence for all earlier industrial classes. Constant revolutionising of production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation distinguish the bourgeois epoch from all earlier ones. All fixed, fast-frozen relations, with their train of ancient and venerable prejudices and opinions, are swept away, all new-formed ones become antiquated before they can ossify. All that is solid melts into air, all that is holy is profaned, and man is at last compelled to face with sober senses his real conditions of life, and his relations with his kind.* (Marx & Engels, 1848)

And before them, Socrates informs us in Cratylus (Plato, 360 B.C.E):

*"**Soc.** Heracleitus is supposed to say that all things are in motion and nothing at rest; he compares them to the stream of a river, and says that you cannot go into the same water twice."* (402b)[12]

What is interesting with Heracleitus is that he is interested not so much in the description of nature but in its meaning through the human perspective, that is, how man understands the reality that surrounds him, his position in the world and, ultimately, himself. Thus, wisdom arises only by overcoming fictitious dilemmas and the notion that unity stems from contradictions.

Everything in the world of Heracleitus is changing, and the forms of things are constantly alternated with fire, war and conflict, beloved Heracleitus concepts, which he uses to express worldly instability and transformation. Based on the Heracleitus´ ontology, Socrates key argument in Cratylus is that true knowledge cannot derive from designations (words) but from the things themselves. If the case was reversed, it would be difficult to explain how those who create words (onomatothetes) know the things they denominate. However, knowledge is impossible if it springs from things that are constantly changing (Plato, 360 B.C.E, 439c–440e). Since everything is in constant flow, it does not exist as something specific and therefore can neither be named nor known. The dialogue ends with Socrates declaring uncertainty about what has been said and urging further deliberation.

12   [Λέγει που Ἡράκλειτος ὅτι «πάντα χωρεῖ καὶ οὐδὲν μένει», καὶ ποταμοῦ ῥοῇ ἀπεικάζων τὰ ὄντα λέγει ὡς «δὶς ἐς τὸν αυτὸν ποταμόν οὐκ ἂν ἐμβαίης».]. The original text in Greek is taken from Πλάτωνος Κρατύλος (Ed: Daidalos/I. Zacharopoulos), Available 2019-10-19 at https://repository.edulll.gr/edulll/retrieve/6982/1736_cratylus.pdf)

Heracleitus had also taught that a precondition for understanding the true structure of reality is to be free from our prejudices and certainties (see Gougoulakis, 2018). Behind this stipulation we may probably discern the traits of virtue of the good teacher, the teacher-philosopher: who helps the students learn by challenging them, so leading them into a temporary state of uncertainty and wonder, and pushing them closer to understanding the true structure of reality. Simplistic perceptions have no place in an authentic/true/ learning process. Contradiction leads to unity, and unity embodies contradictions! Ontologically, contradictions create conflicts and are an integral part of human existence that pervade human relationships. Sometimes they are a creative force, when they end up in a new state of harmony and balance; sometimes they are a force of destruction and chaos.

But what has change and social acceleration to do with sustainability, sustainable development (SD) and education for sustainable development (ESD) that is the subject of this chapter?

A general perception of the notion of sustainability is that it is dealing with viability of all aspects of the human world, encompassing production processes of things and symbols, our relation to the natural environment and the way we treat each other.

The terms sustainability and sustainable development has been used in a variety of ways. There exist several discourses about sustainability and sustainable development depending on who is talking and for what purposes. Apparently, each sustainability discourse is steeped in moral meaning which in turn legitimizes actions to achieve desired goals. These may concern, for example, environmental improvements, greater global equality, protection of cultural diversity or changes in

ways of life and consumption patterns. When sustainability is connected to learning the latter tend to be the means and the process that lead to the realization of the former. It is common to describe the mission of education in terms of contribution to social, economic and political justice, democratization, equality of gender relations, the right to learn, to work and enjoy living in peace with others and harmony with the environment (cf Viezzer, 2006).

2. SUSTAINABILITY, SUSTAINABLE DEVELOPMENT AND EDUCATION FOR SUSTAINABLE DEVELOPMENT

Through international treaties the last decades, sustainable development (SD) has given priority in national policies and education for sustainable development (ESD) appears, at all levels of the education system, to be an important instrument to cope with sustainability. However, despite deliberate curricular reforms, it is yet to be determined what competencies teachers need in order to develop and implement ESD so that they can effectively work in the classrooms to attain learning outcomes, including attitudinal modifications and preparedness for concrete actions by their students (Boeve-de Pauw, Gericke, Olsson & Berglund, 2015).

The concept of Sustainable Development is nowadays used in a fairly wide sense to denote a multitude of environmental concerns together with social, cultural and economic considerations. It was officially launched in that comprehensive meaning with the report Our Common Future, also known as the 1987 Brundtland report, and was defined as: "development that

meets the needs of the present without compromising the ability of future generations to meet their own needs". Furthermore, sustainable development is described by the UN Commission as "a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations" (World Commission on Environment and Development, 1987).

In addition to the concern the World Commission stresses in the report for the poor within each generation, and the importance of intergenerational justice, it also shifts the focus away from resources to human beings. For Amartya Sen this direction is a great improvement, and a significant ground towards a freedom-oriented view, with focus on crucial freedoms. He argues for a more complete concept of sustainability that aims at sustaining human freedom. The fulfilment of needs is one of those freedoms. These freedoms may include liberties such as freedom from hunger, from illiteracy, from ill-health that can be prevented, from avoidable mortality, as well as the freedom to achieve dignity and respect, and other critical emancipations. The focus is on the enhancement of human capability. (Sen, 2013; Rauschmayer & Lessmann, 2013)

In 2015, the United Nations General Assembly, adopted the 2030 Agenda for Sustainable Development, along with a set of 17 Sustainable Development Goals and 169 associated targets. Goals and actions for a sustainable life embraces all human activities and their impact on the physical environment. From a pedagogical point of view, there is a challenge with inevitable consequences for the design of the curriculum and its interpretation,

implementation and evaluation. It is often claimed that problems of various kinds, such as environmental degradation, poverty and inequality, are global, but as the world looks like today, the solutions are expected to be invented locally. Tensions, conflicts and apparently contradictory priorities are revealed in different cultural and national contexts in relation to concrete actions to attain sustainability. The 2030 Agenda is rights-based, universal, and transformative. It is an ambitious plan of action for the global community to eliminate extreme poverty, reduce inequality, and "heal and secure our planet". The Agenda lays down a concrete call to action, encouraging us to take bold and transformative steps "to shift the world on to a sustainable and resilient path". (United Nations, 2015)

3. EMERGENT PHENOMENA AND TRANSFORMATION

Working with SD is a matter of striving enduring change and/or transformation; of human behaviours, of ways of thinking and living, of patterns of production, consumption and renewal of natural resources. All these are complex phenomena requiring a conceptualization of change and transformation.

The notion of SD in its new wide-ranging sense can be understood as an emergent phenomenon. The term emergent phenomenon is used to characterize realities "apprehended by the senses before any judgment is made", which are increasingly complex networks of interacting constituent elements. The principle behind emergent phenomena, i.e. the conglomeration of the elements by themselves cannot explain the emergence of different guises that this particular phenomenon can assume without

294

considering the interaction between them, was introduced by the theoretical biologist, Stuart Kauffman (1992), to explain the origins of life itself. According to Mason (2014), in cases of significant degree of complexity, the implication of the concept of emergence denotes that new properties and behaviours emerge which are not necessarily explained by the mere existence of the constituent elements, nor can they be predicted from a knowledge of initial conditions. When such phenomena are studied, they can give important contributions to understanding the conditions underlying continuity and change in the context of sustainable education for sustainable change and development. Approaching complex phenomena, like ESD, from the perspective of complexity theory, is to apply a dynamic and system-wide perspective on how sustainable change is the offspring from the interaction of a variety of factors in the economic, political, social and cultural environments in which education is situated. Gained insights from analyses that take into consideration the critical corpus of factors and actors that constitute a particular environment, will probably provide arguments for proposals regarding sustainable education programs and pedagogy for sustainable development.

ESD as well as all educational activity rests mainly on communication, by which students encounter officially sanctioned experiences through actual experiences, didactically designed to help them reach specified curricular goals (cf Jackson 1992). When teachers design their instruction, they make interpretations and decisions based on the designated curriculum (which is based on the official curriculum) along with other resources. There are differences between the designated and the teacher intended forms of curriculum that are developed for instruction

for specific students at a particular moment and place (Remillard & Heck, 2014). The acts of communication unfolding between teachers and students around the tasks during the lessons constitute the enacted curriculum, which may deviate in essential aspects in relation to both the official and the designated.

Concerning learning objectives for SD, modern national curricula stipulate the importance of change, which is in line with the theoretical tenets of transformative learning. Transformative learning theory, as developed by Mezirow (1996; 1998), explains change in meaning structures based on Habermas theory of communicative action. Transformation theory maintains that human learning is grounded in the nature of human communication. In order for a person to understand the meaning of communication of intentions, values, morals and feelings, a critical reflection of assumptions is required. Learning is both instrumental and communicative; the former focuses on task-oriented problem solving and is oriented towards empirical-analytic examination (Taylor, 1998). Communicative learning is about understanding the meaning of what others "communicate concerning values, ideals, feelings, moral decisions, and such concepts as freedom, justice, love, labor, autonomy, commitment and democracy" (Mezirow 1991a, p. 8 cited in Taylor, 1998, p. 5). Transformative learning occurs when these two domains of learning involve "reflective assessment of premises" and revision of meaning structures and schemes. Meaning structures act as culturally defined frames of reference and are comprised by meaning schemes and perspectives. Meaning schemes are made up of specific knowledge, beliefs, value judgments, and feelings that constitute interpretations of experience while meaning perspectives are general frames of reference.

Experience, critical reflection, and rational discourse are three common themes in Mezirow's theory, of instrumental importance in the process of transformative learning, together with the assertion that the learner's experience is the starting point and the subject matter for transformative learning (Mezirow, 1995).

Sustainable learning entails always change and development through a process of transformation on both individual and collective level. By and large, sustainability is regarded as a long-term goal, targeting a sustainable world, while SD refers to processes to achieve it, e.g. through education. Pursuing sustainable development as it is outlined in the Brundtland report and the 2030 Agenda, requires collaboration and common endeavours from citizens and their organizations, governmental organizations and enterprises, educational institutions and researchers to bring about changes in attitudes, values and behaviours. The trust to improve the human potential by means of education to attain sustainability is indisputable. In what follows, I address the questions: What competencies do teachers/educators need to possess in order to design educational activities for sustainable development? What does the Swedish school curriculum prescribe and what is the ordinance for upper secondary teacher education?

4. ESD IN TEACHER EDUCATION AND UPPER SECONDARY SCHOOL CURRICULUM

In Sweden it is stated that it is important for education to contribute to SD (Skolverket, 2011). This is indicated in the educational legislation (Utbildningsdepartementet, 2011) and

in the curriculum and syllabi. In the Swedish curriculum for Upper Secondary Schools SD is mentioned as a goal which will "develop a personal approach to overarching, global environmental issues. Education should illuminate how the functions of society and our ways of living and working can best be adapted to create sustainable development." (Skolverket, 2013, p 6).

Education for sustainable development is not only a matter of facts, which have to be taught and assessed. Pre-eminently, it is a challenge for the whole education system to develop approaches that prepare students to deal with the moral concerns and values attached to the concept of sustainability (cf Ödman, 2008). Although it is difficult to imagine somebody who seriously rejects the idea of sustainable development, in reality it is a very contested issue. It encompasses conflicting perceptions, ideologies, values and priorities, and their primary function is to justify people's actions. Opinions are usually formed by various personal and contextual factors and, thus, are difficult to be influenced merely by using arguments based on scientific facts and reason. A holistic approach to sustainability issues seems, therefore, as the best viable pedagogical way to deal with them. Using such an approach, teachers design educational practices based on democratic principles aiming to fostering participatory skills and competences. Through active participation in problem posing, debates, discussions and decisions related to issues of sustainable development, students become able to develop a reflective thinking, which then leads to a transformation of dysfunctional patterns of thinking and acting.

Before the term ESD even came into fashion, education was recognised as a means to address environmental issues (see Salmen, 2018). Environmental education has a long tradition in

Sweden and was promoted as a vehicle for change in the Stockholm Conference on the Human Environment, 5 to 16 June 1972.[13] Already in the curriculum for outdoor education in the beginning of 20th century, there were regulations for activities aimed at caring for the physical nature (Sandell & Öhman, 2010). The prescriptions for a more systematic environmental education appear for the first time in the curriculum of 1969 (Lgr 69). Besides the aforementioned UN Conference on the Human Environment in Stockholm Conference, environmental education was further encouraged, by the UNESCOs first intergovernmental conference on environmental education in Tbilisi in 1977. The Tbilisi Declaration had strong impact on the Swedish curriculum of 1980 (Lgr 80), where environmental perspectives were integrated mainly in science education. The following years were characterized by an expansion of the discourse on environmental education, to eventually be discussed in terms of sustainable development (see Öhman, 2011).

The conceptual change from 'environment' to 'sustainable development' coincided with the UN initiative to declare 2005–2014 as the decade of Education for Sustainable Development. Since then the concept is exposed to considerable theoretical and ideological deliberations but in Sweden seems to prevail a widespread consensus regarding its necessity for the quality of life and the maintenance of the welfare society. Even so, the notion of sustainability is today of great concern in every policy area and, not least, an essential element of today's edu-

13   The Declaration of the United Nations Conference on the Human Environment from 1972 is available at https://mwvlw.rlp.de/fileadmin/mwkel/Abteilung_2/8206/06_Nachhaltigkeit_global/1972_Stockholm_Erklaerung_en.pdf

cation at all levels. Due to its multifaceted character, the education practice for sustainability is under consideration to respond to entailed challenges. Educators are required to pay greater attention to moral and political perspectives, and to the nexus of relations between economic development, social justice and environmental protection, when they approach sustainable development in the classroom. This in turn leads to changes of the teaching methods and in the relationship between the teachers and the students towards a more communicative and participatory learning process.

The Swedish Government's strategy for ESD, which partly was founded on the assessments and proposals submitted by the Governmental Inquiry Committee in its official report "Att lära för hållbar utveckling" [Learning for Sustainable Development] (SOU 2004: 104), emphasizes action competence as a central concept. The education should not only offer the student factual knowledge about the condition of the world, but also provide the conditions for commitment and willingness to act in order to influence the development in a sustainable direction.

The steering documents for the compulsory and upper secondary school state that sustainable development must be included in the teaching regardless of the pupil's age or the subject being taught. Sustainability education is not any more anticipated to be a responsibility of science education but rather an obligation for all subjects in the curriculum. This view is reflected in the tradition of the Swedish curriculum where political, religious and cultural values are highlighted and expected to be processed in the schools.

Nowadays the adjective "sustainable" appears in all possible contexts to denote a quality of something. Significative of this

is for example the Governmental Inquiry on a new teacher education programme (HUT 07), which chose to entitle its final report "Sustainable teacher education". Obviously, the inquirers deemed that teacher education at that time was not sufficiently sustainable and took as point of departure for their work the following assumptions:

- *teacher education should be an academic professional programme*
- *the hallmarks of teacher education should be sustainability, professionalism, effectiveness and high quality*
- *teacher education should give future teachers a thorough foundation on which they can build during their career by continuous skills development*
- *the attractiveness and status of teacher education need to be raised.* (SOU 2008:109, p. 23)

According to HUT 07, the concept of sustainability among other implies that

- *teacher education will give future teachers a solid knowledge base and effective tools that enable them to exercise the profession in a professional and secure manner,*
- *teacher education will give knowledge of subjects that builds on a scientific basis and proceeds from the perspective of subject didactics,*
- *up-to-date contact with the practical field is guaranteed through relevant practical school-based training at quality assured field schools and temporary appointments for education teachers from the school system,*
- *professionally active teachers receive continuous in-service training and skills development.* (a.a., p. 31)

The Inquiry's idea of sustainable teacher education also comprises four overall perspectives, which have been found to be so essential that they should run through all teacher education and also strengthened. These are:

- *a scientific and critical approach, in order to counteract normative attitudes*
- *a historical perspective, to broaden the knowledge of students of education in time and space*
- *an international perspective, to work against a narrowly contemporary and national view of school and learning*
- *information and communications technology (ICT) as an educational resource, to keep pace with the digitalisation of society and school.* (a.a., p. 26f).

Following the proposals of the Inquiry HUT 07, a new teacher education structure was established. This in turn also affected the design of the school curricula, which are in force since 2011 (Lgr 11 and Lgy 11). The reform of the upper secondary school 2011 emphasises the provision of good preparation for working life and continuing studies, without reducing the ambition for developing general competences. As regards the view on sustainable development in LGY11, no distinct definition is presented of the concept. It is treated under the section "fundamental values and tasks" of the Swedish school and is linked to globalization and internationalization, as well as other areas, such as democracy, gender, health, identity, cultural diversity and lifestyle issues. In the same section, four general perspectives are stipulated corresponding to teacher education intended to permeate the teaching and learning in school, which to some extend

correspond to those that apply for teacher education: **a histori-cal perspective, an international perspective, ethical perspec-tives, and environmental perspectives**. The latter should pro-vide students with insights to contribute to preventing harmful environmental effects and develop a personal approach to over-arching, global environmental issues. The task of the education with respect to environmental perspectives should illuminate how the functions of society and our ways of living and working can best be adapted to create sustainable development (Skolver-ket, 2013, p. 6).

The education at all levels of the Swedish school system, aims at promoting pupils' many-sided personal development to active, creative, competent and responsible individuals and cit-izens. Emphasis is given on the ability of the pupils to assess, to dare take a position on complex issues and act accordingly.

Nurturing reflecting and action-oriented citizens is stipulated in the school curriculum as one of the main tasks of the edu-cation. There are several instances according to the governing documents for the teachers to train this ability while working for sustainability. This goal is promoted through an interdisci-plinary approach and by many subject areas that are considered in the governing documents:

> *The school should stimulate students' creativity, curiosity and self-confidence, as well as their desire to explore and transform new ideas into action, and find solutions to problems. Students should develop their ability to take initiatives and responsibility, and to work both independently and together with others. The school should contribute to students developing knowledge and attitudes that promote entrepreneurship, enterprise and inno-*

vative thinking. (…) In addition, the school should develop the
social and communicative competence of students, and also their
awareness of health, life style and consumer issues. (a.a., p. 5f)

To mention another example, it is stated in the syllabus of the subject Geography in the Natural Science Programme that the teaching should cover, inter alia, *the relationship between people, society and the environment, and also global environmental and development questions in relation to resource use, resource distribution and sustainable development* (Skolverket 2012, p. 245).

In fact, the actualisation of sustainability is addressed in all 18 national programs at upper secondary school, but to varying degree in the constituent subjects. In the diploma goals for the Natural Science Program it is stated that teaching should help students to develop understanding of how science and changes in society both affect and are affected by each other and, in particular, highlight the role of science in questions concerning sustainable development. The didactic design of the teaching activities should also offer opportunities to students to take part in ethical discussions of the role of science in society, encourage them to cooperate and stimulate them into seeing opportunities, trying to solve problems, taking initiatives and transforming ideas into practical actions (a.a., 227).

Among the diploma goals for the Building and Construction Program is that "education should provide knowledge about rational, safe and environmentally sustainable construction" (a.a., p. 77), while a comment on one of the diploma goals for the Electricity and Energy Program reads as follows:

The production of electricity and energy has an impact on the
environment, both directly and indirectly. Direct impact on the

environment refers to the handling of different materials and components, such as electronics, fluorescent lamps and refrigerants in order to minimise environmental impact. Indirect impact on the environment refers to the impact of the production of electricity and energy on e.g. ecocycles, recycling and sustainable development. (a.a., p. 89)

As a conclusion, with regard to how sustainability issues are presented in the Swedish curriculum for upper secondary school, it should be mentioned that schools and teacher collegiums in the country have great autonomy and freedom to determine the forms of education for sustainable development and together with the students choose to focus on different aspects of it, i.e. on the local environment, on health, on life style, on consumption, on global cooperation, on fair trade, etc.

5. ESD IN VOCATIONAL TEACHER EDUCATION PROGRAMS

In the report from the Visby conference 'Bridging the GAP – Educators and Trainers', we find recommendations for the advancement of the Agenda 2030 enhancing ESD in Teacher Education". The recommendations concern the development, the supporting structures for the implementation, and the follow up of ESD policies. They also include professional development in ESD on all levels in the formal education system, along with the development of ESD standards as a basis for accreditation of teacher education programs and certification of teachers. It is noteworthy that the recommendation report emphasizes the need for a focus on how existing subjects can be enhanced

through the inclusion of ESD, "rather than (or in addition to) separate ESD-courses" (SWEDESD, 2017). Furthermore, the recommendations highlight the quality of the existing ESD teaching and learning materials and asks for more innovative and critical research about ESD, as well as developing methodologies to advance ESD. Before continuing with the Visby recommendations, we will take a closer look at what the steering documents for teacher education prescribe with respect to ESD.

The Swedish Higher Education Act (SFS 2009: 1037, Chapter 1, § 8), states that:

> **§8 Education at the undergraduate level shall be based essentially on the knowledge that the students gain from national programs in upper secondary school or equivalent knowledge** [our emphasis]. The government may, however, decide on exceptions when it comes to artistic education. Undergraduate education should develop the students' ability
>
> - *to make independent and critical assessments,*
> - *to independently distinguish, formulate and solve problems, and*
> - *readiness to face changes in working life.*
>
> In the area covered by the education, the students must, in addition to knowledge and skills, develop the ability to:
>
> - *seek and evaluate knowledge on a scientific level,*
> - *follow the development of knowledge, and*
> - *exchange knowledge even with people without special knowledge in the field.* (Law 2009: 1037).

In the educational plan for the Vocational Teacher Education Program at Stockholm University[14], the concept of sustainable development is mentioned in the section of judgement ability and attitudes, where it states that for the vocational teacher degree, the student should demonstrate

- *self-awareness and empathic ability,*
- *ability for a professional attitude towards students and their guardians,*
- *ability as teacher to make judgments based on relevant scientific, societal and ethical aspects with special regard to human rights, in particular the child's rights under the Convention on the Rights of the Child, as well as a sustainable development, and*
- *ability to identify the own need for further knowledge and to develop their competence both in the subject and in the pedagogy.*

The objectives above are identical to those recorded in the Higher Education Ordinance[15] and are found listed in all ten Vocational Teacher Education Programs in Sweden[16]. Concerning SD, almost the same formulation recurs in the respective section of judgement ability and attitudes for all Higher Education bachelor and diploma programs.

14   www.edu.su.se/polopoly_fs/1.314379.1483522839!/menu/standard/file/
      Utbildningsplan%20vt17.pdf
15   Högskoleförordning 1993:100 (bilaga 2), https://www.riksdagen.se/sv/
      dokument-lagar/dokument/svensk-forfattningssamling/hogskoleforordning-
      1993100_sfs-1993-100
16   studera.nu, https://www.studera.nu/att-valja-utbildning/lararutbildningar/
      lararutbildningsguiden/yrkeslarare/

Against this background, we return to the outcomes of the Visby Conference and its recommendations for enhancing ESD in Teacher Education. In the conference's report acknowledges that ESD in teacher education, during the UNs Decade of ESD (2005–2014), had progressed greatly in terms of promotion, advancement and implementation. It states, though, that the progress of implementation differs a lot within countries and regions (SWEDESD, 2017). The recommendations put forward from the conference address primarily teacher educators, but also other and stakeholders that are active involved in teacher education. Here we will only mention the recommendations intended for Change within Faculties of Education and Change Related to Engaging Pre-Service & In-Service Teachers (a.a.).

Accordingly, the Visby conference recommends Teacher Education Institutions (TEI) to

- *further a systematic integration of ESD in teacher education, focusing on how the relevance, meaningfulness and quality of existing subjects can be enhanced when ESD is included,*
- *strengthen and use regional partnerships in professional development of ESD for teachers and teacher educators,*
- *include ESD in professional development for leaders at all levels (i.e. school heads and principals, heads of disciplinary departments at TEIs, deans and rectors at faculties of education).* (a.a., p. 16)

The acquisition of ESD knowledge and experiences is a collaborative endeavour where pre-service teachers, in-service teachers and teacher educators inspire and learn from each other. In relation to that aspect, the conference recommends TEIs to collaborate with schools to

- *provide continuous professional development in ESD to practicing teachers,*
- *develop competence development and national mentoring programmes in ESD for school teachers, and*
- *strengthen professional development networking.* (a.a., p. 17).

The review in this article, is limited to the wordings about ESD in the documents governing vocational teacher education, put in its overarching legal context. What we note reading the regulative documents for teacher education programs is that providers of teacher education in Sweden enjoy a fairly large degree of autonomy in determining the content and profile of their own teacher education, including deciding what competencies their teacher students should incubate to promote sustainable development in their future professional practice. It is most probable that future teachers are introduced during their education in issues about SD, but how these are addressed and under what didactic conditions, it was beyond the scope of this chapter. A rough search on Stockholm University's website shows that some departments with coordinating responsibility for a particular teacher program, as well as other departments, offer free standing courses in SD, mainly on advanced level with a variety of content and perspectives. It would be, therefore, of great importance and relevance for TEI, teachers and policy makers with more targeted research studies to examine in depth how sustainability and sustainable development are treated in the various teacher training programs in the country.

6. THE "SUSTAINABILITY PARADOX" AND OTHER (CONCLUDING) REMARKS

I. Despite its vagueness, ESD is currently identified as a decisive step in achieving global sustainable development, prompting extensive transformations in the education system all over the globe. Reforms are being launched and implemented, which profoundly affect content in curricula and in teaching methods, reinforced by an increasingly sophisticated ICT. These educational reforms are concurrently claimed to be an adaptation to the demands of social acceleration and the rapid pace of change witnessed in all sectors of life, including the physical environment. ESD is portrayed as the new paradigm that will provide the students with the skills required for a successful citizenship in another better world, where all citizens are supported to fulfill their personal ambitions and to actively participate in the societal dealings.

The education community seems to be wrestling today with what Van den Branden (2012) calls a "sustainable paradox", which means that while ESD is preparing learners to work for a sustainable society, the educational system itself fails to satisfy the basic criteria of being "sustainable". The criteria, according to Van den Branden, set for learning processes to qualify as sustainable are:

> *(1) Sustainable development requires meeting the basic needs of all people and extending to all the opportunity to satisfy their aspirations for a better life; this implies that societies should aim to meet human needs both by increasing productive potential and by ensuring equitable opportunities for all.*

(2) Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs.
(3) Sustainable development does not endanger the natural systems that support life on Earth: the atmosphere, the waters, the soils, and the living beings. The rate of depletion of non-renewable resources should foreclose. (a.a., p. 286)

The reasoning about this sustainable paradox, and about the term "sustainable education" coined by Sterling in 2001 (see Branden, 2012), focuses on the importance of education changing its perspective from preparing learners for the labor market, towards a broader education concept that is more in alignment with the philosophy of the Brundtland report. To phrase it differently, it's a matter of shift from preparing fatuous consumers to foster wise/prudent citizens.

II. From a learning perspective, SD is a process through which we learn to build our capacity to live in accordance with rules and standards that maintain sustainability. The latter does not refer to a static condition but to the humans' capacity to continuously adapt by means of social organization to the physical environment striving to resolve "values conflict in the human –environment relationship, in a manner which is ecologically and humanistically sound". William Scott, in his inaugural speech as professor, made a distinction between learning for sustainability that goes on everywhere and teaching about SD in formal educational institutions, because as he maintains "it's hard to know in detail what needs to be taught – except, perhaps, how to learn" (Scott, 2002). One conclusion we can

draw from this reasoning is that it depends on the society's capacity to offer affordable opportunities for learning with others on rational grounds, with regard to social, economic and environmental concerns. When people come together and share views and experiences on equal basis they are keener to question their frames of reference and meaning perspectives, and transform them, if they found that they are dysfunctional. Dealing with sustainability issues may inevitably open up for matters of social justice, equity and human-caused / carbon-driven climate change, which can lead to initiatives for social change towards a better world to live in for the many, not for the privileged few, with ecological harmonization between society, economy and nature.

Learning is an individual experience that occurs in context. Although teachers are important for their students learning, they should know that they can never be sure that the students actually learn what teachers want them to learn. At most, teachers provide affordances for learning but, at the end, students learn what they want to, also depending on the social interactions they are involved in.

Curricula, ordinances and study plans formulate more or less distinctly ambitious and visionary sustainability goals and objectives on which learning outcomes are anchored. While it is easy to prescribe learning outcomes, it is difficult to ensure that these are going to be achieved. Another difficulty is the uncertainty (and complexity) surrounding sustainability, including both the process leading to it – the undertaken didactical actions – and the desired results. Legitimate questions here are what educational actions are sustainable, who decides that, on what scientific ground, what will result from it, and who is to

blame when the results are considered unsustainable? The questions seem rhetorical because of the complexity of sustainability. Additionally, the fact that pedagogical actions are contextual and value-laden, makes it impossible to know in advance which methods, activities and behaviours are sustainable, as means to attain sustainability.

III. ESD has gained a growing recognition worldwide and the very concept has become associated with improvement and quality education (UNESCO, 2014; SWEDESD, 2017). In policy documents and in the public debate, ESD has served as a projection object for humanity›s desires and hope of a better world. For the education community, according to results of an international research (Laurie et al., 2016), ESD is perceived as a means, inter alia, to counteracting unsatisfactory student attendance and problem-solving skills; encouraging interdisciplinary and cross-curricular work; enhancing holistic and critical thinking to achieve deeper understanding of the topics under study; providing students with opportunities to face complex issues and reflect on lifestyles, values, and behaviours appropriate for building a sustainable future; it triggers revisions of the learning content and the curriculum, as well as contributes to innovative teaching approaches. The mentioned research study identified also a number of challenges to implementing and broadening ESD across countries, namely:

- *Integrate ESD across the primary and secondary curriculum*
- *Provide professional development for teachers to ensure ESD policy implementation*
- *School leaders should adopt ESD management practices to complement and support ESD in the curriculum* (a.a.)

Apparently, ESD appears to satisfy in all essentials the requirements to assume status of a new curriculum code, constituted by principles and motives that underlie the selection of subject content, and impacting on the organization and implementation of the teaching and learning in schools (cf. Lundgren, 1983).

... and finally

If SD can be interpreted in so many different ways, we can also assume that the teacher's tasks also become difficult to infer.

Apparently, ESD is a controversial topic, not least because it concerns political positions, lifestyle issues, and ethical issues. It raises questions about knowledge, curriculum policy and teachers moral / ethical values, and frames of thinking. Teachers are confronted with many ethical and political dilemmas in their attempt to handle tensions between their teaching obligation and their own values. These dilemmas display how important is that teachers are willing to constantly learn, reflect on and problematize norms, ethics and the meaning of life.

One can also get the impression that SD is unproblematic and something everyone agrees on. We realize in fact that is not the case and tensions arise when different perceptions collide.

There are also many, on sound grounds, who point out that ESD requires new ways of looking at teaching. It is certainly true but with the addition that ESD may not just be annexed to existing subject content, but a comprehensive change in the entire organization of learning. ESD should not just be Education about, or Education for, but also Education as sustainable development.

Education about SD scarcely challenges the prevailing norms and order, which **Education for SD** most probably does. How-

ever, **Education as SD** not only challenges current norms but our whole way of living as human beings/humanity. A sustainable learning is a transformative learning: a profound change in lifestyle.

ESD is interdisciplinary and ecological. It reveals conflicts between man, nature and society and necessitates interdisciplinary collaboration, external cooperation and a work on issues without given answers; a cry for Teacher Education remake?!

REFERENCES

Boeve-de Pauw, J., Gericke, N., Olsson, D. & Berglund, T. (2015). "The Effectiveness of Education for Sustainable Development", *Sustainability* 2015, 7, 15693–15717; doi:10.3390/su71115693

Gougoulakis, P. (2018). Δια βίου μάθηση: Ναι, αλλά γιατί [Lifelong learning: Yes, but What?]. In: Η φιλοσοφία ως διάσταση και προοπτική στη δια βίου μάθηση [Philosophy as dimension and perspective in lifelong learning] / [ed] Βασιλική Καραβάκου, Thessaloniki: University of Macedonia Press / Εκδόσεις Πανεπιστημίου Μακεδονίας , 2018, pp. 35–53

Högskolelag (1992:1434). Available 2019-10-25 at https://www.riksdagen.se/sv/dokument-lagar/dokument/svensk-forfattningssamling/hogskole-lag-19921434_sfs-1992-1434

Jackson, P.W. (1992). *Handbook of research on curriculum*. New York: Macmillan.

Kauffman, S.A. (1992). *Origins of Order: Self-organisation and selection in evolution*. Oxford University Press, Oxford.

Laurie, R., Nonoyama-Tarumi, Y., Mckeown, R., & Hopkins, C. (2016). Contributions of Education for Sustainable Development (ESD) to Quality Education: A Synthesis of Research. *Journal of Education for Sustainable Development*, 10(2), 226–242. doi: 10.1177/0973408216661442.

Lundgren, U. P. (1983). *Between Hope and Happening: Text and context in curriculum*. Victoria: Deakin University Press.

Marx, K. & Engels, F (1848). *Manifesto of the Communist Party* [From the English edition of 1888, edited by Friedrich Engels]. Available 2019-10-19 at https://www.free-ebooks.net/academic-economics/The-Communist-Manifesto/pdf/

Mason, M. (2014, February). "Complexity theory in education governance: Initiating and sustaining systemic change." Paper presented at the *Governing Complex Education Systems (GCES): Understanding complexity: The future*

of education governance, Ministry of Education and Research Oslo, Norway. Available at http://repository.lib.eduhk.hk/jspui/handle/2260.2/19414

Mezirow, J. (1998). "On Critical Reflection." *Adult Education Quarterly* 48, no. 3 (Spring 1998), pp. 185–198.

Mezirow, J. (1990). *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning.* San Francisco: Jossey-Bass.

Mezirow, J. (1995). Transformation Theory of Adult Learning. In *Defense of the Lifeworld*, edited by M. R. Welton, p. 39–70. New York: SUNY Press.

Mezirow, J. (1996). "Contemporary Paradigms of Learning." *Adult Education Quarterly* 46, no. 3 (Spring 1996): 158–172. (ERIC No. EJ 525 537)

Öhman, J. (2011). New Swedish Environmental and Sustainability Education Research. *Utbildning & Demokrati*, Vol 20, No 1, 3–12

Öhman, Johan (ed.) (2008). *Values and Democracy in Education for Sustainable Development: Contributions from Swedish Research.* Malmö: Liber. Available 2019-10-19 at: https://www.researchgate.net/publication/281811296_Ohman_Johan_ed_2008_Values_and_Democracy_in_Education_for_Sustainable_Development_Contributions_from_Swedish_Research_Malmo_Liber

Plato (360 B.C.E), *Cratylus.* (Translated by Benjamin Jowett), Available 2019-10-19 at http://classics.mit.edu/Plato/cratylus.html

Rauschmayer, F. & Lessmann, O. (2013), "The Capability Approach and Sustainability", *Journal of Human Development and Capabilities*, 14:1, 1–5, https://doi-org.ezp.sub.su.se/10.1080/19452829.2012.751744

Remillard, J. T. & Heck, D. J. (2014). "Conceptualizing the curriculum enactment process in mathematics education". *ZDM—The International Journal on Mathematics Education*, 46(5), pp 705–718, DOI https://doi.org/10.1007/s11858-014-0600-4

Rosa, H. (2013). *Social acceleration: a new theory of modernity*. New York: Columbia University Press.

Salmen, A (2018). *A Cross-Case Analysis of ESD Learning and Development in UK Business Schools.* University of Southampton, Faculty of Social, Human and Mathematical Sciences, Southampton Education School (PhD Thesis). Available 2019-10-20 at https://eprints.soton.ac.uk/433257/1/Final_thesis_Angelika_Salmen_24397105.pdf

Sandell, K. & Öhman, J. (2010). Educational potentials of encounters with nature – reflections from a Swedish outdoor perspective. *Environmental Education Research*, 16(1), 95–114

Scott, W. (2002). *Sustainability and learning: what role for the curriculum?* Council for Environmental Education in association with the Centre for Research in Education and the Environment, University of Bath (Inaugural lecture as professor)

Sen, A. (2013) The Ends and Means of Sustainability, *Journal of Human Development and Capabilities*, 14:1, 6–20, DOI: 10.1080/19452829.2012.747492

Skolverket (2011). *Vad är hållbar utveckling?* [*What is sustainable development?*]. Stockholm: Skolverket.

Skolverket (2012). *Upper Secondary School 2011.* Available 2019-10-02 at https://www.skolverket.se/getFile?file=2801

Skolverket (2013). *Curriculum for the upper secondary school.* Stockholm: Skolverket.

SOU 2004: 104. *Att lära för hållbar utveckling.* Available 2019-10-26 at https://www.regeringen.se/contentassets/09ac8f7b0f9d402395ff95af1f6eb7cf/att-lara-for-hallbar-utveckling-sou-2004104

SOU 2008:109. *En hållbar lärarutbildning.* [*Sustainable teacher education*]. Betänkande av Utredningen om en ny lärarutbildning (HUT 07). Stockholm: Fritzes.

SWEDESD (2017). *Visby Recommendations for enhancing ESD in Teacher Education.* Swedish International Centre of Education for Sustainable Development (SWEDESD), Uppsala University – Campus Gotland. Available 2019-10-20 at https://swedesd.uu.se/digitalAssets/611/c_611672-l_3-k_btgvisby2016.pdf

Taylor, E.W. (1998). *The Theory and Practice of Transformative Learning: A Critical Review.* Ohio: The Ohio State University, Information Series No. 374.

United Nations (2015). *Transforming our World. The 2030 Agenda for Sustainable Development.* Available 2019-10-19 at https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf

Utbildningsdepartementet (2011). *Programmen i Gy 2011.* [Upper Secondary School Programs in Gy 2011]. Stockholm: Utbildningsdepartementet.

Van den Branden, K. (2012). "Sustainable education: basic principles and strategic recommendations". *School Effectiveness and School Improvement*, 23:3, 285–304, DOI:10.1080/09243453.2012.678865

Viezzer, Moema L. (2006). 'Environment, Education and Sustainable Development'. *Convergence*, V. 39 N. 4 p. 45–50.

World Commission on Environment and Development (1987). *Our common future.* Oxford: Oxford Univ. Press, Available 2019-10-20 at http://www.un-documents.net/wced-ocf.htm

Discourses and Understandings of Employability in Vocational Education

Alex Cuadrado[*]

Abstract: The concept of 'employability' is an important aspect of the link between education and the labour market. This chapter describes, in the Swedish and Catalan contexts, the conceptualization of employability in the discourses of vocational educational policy trough the analytical categories of *representations of the world*, *social order*, and *social identity*. It then examines vocational education students' understandings of the concept through the themes of *career building, experiences*, and, *employment outlook*. Using critical discourse analysis, I collected and examined data from policy documents to analyse policy discourses regarding employability. On the other hand, I interviewed six vocational education students and used thematic analysis to build students' understandings of employability. The results portray different pictures for the two contexts examined. While Swedish policy discourse includes on its account of employability some 'humanistic' values, such as democracy and human rights, the Catalan policy discourse focuses mainly in 'market' values such as competitivity and productivity. On the other hand, students in both contexts understand apprenticeships and personal attributes as key elements of employability.

[*]   Correspondence: acuadradoe@gmail.com

Two main conclusions are drawn from this study. First, the world represented in policy documents strives to reproduce relations of economic production and cultural hegemony. Second, by placing emphasis on apprenticeships and personal attributes vocational students have adapted to the goals of policy documents. Further research on the topic should explore the existing material contradictions between labour policy and vocational education policy.

1. INTRODUCTION

Educational research on employability has focused, mainly, on graduate employability at the tertiary education level (McDonald, Grant-Smith, Moore, & Marston, 2019) rather than on employability of vocational graduates. It could be argued that the cause is that vocational and general upper secondary education have different goals in an educational system. On one hand, general secondary education is aimed at providing students with knowledge to further their education and to participate actively in social life. On the other hand, vocational secondary education is aimed at providing students with the knowledge to acquire the necessary skills and competences to perform manual jobs (Nylund, Rosvall, & Ledman, 2017). In other words, the streaming in upper secondary education serves as a sorting mechanism through which the tasks to be performed for the progress of society are dealt. Not coincidentally, this division within educational systems resembles to a large extent the divisions existing in society. The reproduction theories of Paul Willis, Samuel Bowles and Herbert Gintis, Pierre Bourdieu or

Basil Bernstein have provided a vast body of knowledge proving how material and cultural backgrounds have direct impact on educational achievement. In that regard, therefore, it is feasible to assert that educational systems reproduce, to some extent, the existing social hierarchy based on occupations, instead of diminishing the pre-existing social inequalities. In that context, moreover, asking about how the link between education and work operates is a mandatory question to understand the hierarchization of society. The aim of this chapter is to provide a summarised account of the research I carried out as part of my master thesis on the discourses and understandings of employability of vocational education in Sweden and Catalonia.

2. THEORETICAL FRAMEWORK

In comparing employability discourses in the UK and the USA, Boahin and Hofman (2013) concluded that the boundary between employee and citizen has become indistinguishable on the basis of education being informed by employers' demands. James Reid argued that "the significant ideology organizing all levels of education in westernized industrialized countries is that of neoliberalism" (Reid, 2016, p. 56). Reid's words manifest that education is a politized field and that Western industrialized countries are so in a specific way. Neoliberal perspectives of education include processes of deregulation, privatisation and marketization (Dovemark, Kosunen, Kauko, Magnúsdóttir, Hansen, & Rasmussen, 2018) but also the implementation of new public management (NPM) which both Sweden (Lundahl, Arreman, Holm, & Lundström, 2013) and Catalonia (Verger & Curran, 2014) have adopted. The implications

of education being a political arena are that several sectors of society become interested in shaping educational processes. In addition, because of neoliberal tendencies have gained a stronger role in the recent past, economic interests advocating for deregulating, and privatizing education have prevailed.

The conceptualization of the term 'employability' has been, in the last decades, a contested one (Brown, Hesketh & Wiliams, 2003; Finch, Hamilton, Baldwin, & Zehner, 2013a; Graham, 2017; Siivonen & Isopahkala-Bouret, 2016; Williams, Dodd, Steele, & Randall, 2016; Wilton, 2014). While in the academia several disciplines have brought different perspectives on the issue, employers' associations and supranational institutions have also taken part on the debate (McQuaid & Lindsay, 2005). The concept refers to a key issue because it bridges two of the most important spheres in current societies; education and work. Moreover, because of the implications the concept has in such arenas, employability has become an element of utmost importance in political agendas worldwide and that motivates different research fields to investigate it. Therefore, studies from a wide range of disciplines, including human resources, management, economics or education, attempt to provide a focus from which employability could be understood (Williams et al., 2016).

In their systematic review of employability, Williams, Dodd, Steele and Randall identified in the literature three dimensions of the concept: capital components; career management; and contextual factors (2016). The first of these dimensions, capital components, portrays the individual as possessing qualities prone to yield an economic return. These include three categories that are tied to sociological theories of education and one category tied to psychology. These categories are human capital,

social capital, cultural capital, and psychological capital (2016). Human capital theory understands employability as the repertoire of skills and knowledge that an individual has acquired as the result of investing in education and that will allow them to compete for jobs in the labour market. Social and cultural capital stem from the work of Bourdieu and regard employability as the utilisation of social networks and shared behaviours, norms, and traditions to obtain a job. Finally, psychological capital explains employability as "the individual's ability to offer optimal performance within the role offered" (Williams et al., 2016, p. 890). The second dimension, career management, focuses on individuals' strategic choices to gain or keep employment. Signal management and self-management skills are two aspects of this dimension. While signal management defines employability as an individual's ability to understand selection processes, self-management skills views employability as actions taken by individuals in pursuit of their employment goals. The third and last dimension identified by Williams et al., contextual components, encompasses external circumstances mediating in the process of gaining employment (2016).

If employability is to be conceptualized as the link between vocational education and work under an international and comparative education framework, emphasis needs to be placed on how societal contexts influence the design and implementation of educational systems and policies and which are the effects these have in vocational education students. Therefore, two research questions lead this research:

- What are the aims of vocational education policy in terms of employability in Sweden and Catalonia? What are their differences and similarities?

322

- What are the understandings of employability of vocational education students in Sweden and Catalonia? What are their differences and similarities?

3. METHODOLOGY

The two research questions in which this study is based aim at answering different aspects of the same problem; the problem of defining employability. In an attempt to bridge agential and structural explanations of employability, the concept is problematized from two perspectives, those of how employability defined in education policy and, how students understand employability and how they behave according to this understanding. By framing the research questions in this way, the focus of the inquiry is two-fold. In the other hand, an interpretative account of employability discourses is developed through the first set of research questions. In the other hand, an explanatory exposition is drawn through the second set of research questions. Therefore, it is necessary to employ different methods to attempt to solve these questions satisfactorily.

Critical discourse analysis (CDA) is a useful tool to examine the voices of marginalized, disempowered and oppressed groups (Fairclough, 2013). As many authors have pinpointed (Erikson & Rudolphi, 2010; Nylund et al., 2017; Wheelahan, 2007), the streaming into vocational and general programmes in upper secondary education constitutes a form of reproducing inequality because of two reasons. The first reason is that patterns of class division are identified in the enrolment to these sections of education; working class students end up in vocational education more often than middle class or upper-class students (Alex-

andersson, 2011; Rosvall, 2015). The second reason is that the outcomes of these branches of upper secondary education lead to the sorting of individuals in the labour market in dominant and dominated positions according to the tasks they develop in the workplace. For example, "Leena Koski (2009) argues that vocational education reproduces the working class by including processes that educate the future workers to enter into submissive, inactive moral states and power relations" (Hjelmér, Lappalainen, & Rosvall, 2010).

Thematic analysis allowed me to find recurrent themes on the data and, thus, build analytical categories that were useful to explain different aspects of employability. These are: career building; experiences; and employability perspectives. Simultaneously, these categories were built from two or more aspects within them. For example, career building comprises aspects of choice of studies, external influence, and studies satisfaction. Experiences includes apprenticeships or working experiences in which students have been engaged. Finally, employability perspectives takes into consideration personal attributes, readiness, and employment outlook. These three categories have proved useful in providing explanatory accounts of employability by vocational education students.

4. ANALYSIS

The analysis of the policy documentsconsisted in creating a description of how the educational authorities of Sweden and Catalonia represented the world, portrayed the social order, and created social identities. To do so, three analytical categories were used: representations of the world, social order, and social iden-

tities. The first of those categories, representations of the world, describes how the world is represented in policy documents as a result of the underlying power relations that give voice to the actors who create those documents. Social order refers to the relationship between the labour market and education systems in reproducing social hierarchies. Social identities, finally, focuses on which individual traits vocational graduates must possess after their studies according to educational authorities.

On the other hand, the analysis of Swedish policy documents suggested a representation of the world in which Swedish society respects human rights and democratic values without challenging the ideal of subordinating the education system to the needs of the economy. This is aligned with the social order advocated in the documents through which the role of vocational education is to imbue Swedish cultural values and prepare students for the labour market. In that regard, industry needs are to be satisfied and industry is to have an active role in designing vocational programmes. Thus, the social identity of vocational graduates in Sweden must acknowledge their global, Nordic, European, and Swedish cultures. They also must be respectful to human rights and democracy and empathetic with 'others'. They, also, must develop a vocational identity in which they master several skills, are ready to progress in the labour market and are open to entrepreneurship. On the other hand, Catalan policy documents represented a world where the economy is the fundamental driver of Catalan society. In addition, because of global trends, the Catalan economy is based on knowledge-based sectors with high added value. This leads to a social order where the role of vocational education is to contribute to companies' competitiveness, economic growth, and graduates' employability. To

achieve these goals, the needs of industry need to be prioritized in designing vocational programmes, and the social identities of vocational education students are reduced to a passive position contributing to economic development.

The analysis of the interviews' followed a thematic analysis that allowed me to find differences and similarities between the understandings of employability held by students in Sweden and Catalonia.

For example, students in Sweden grounded their choice of studies on students' desires to pursue a career on their chosen field. Although following one's desires would seem the obvious way to choose studies, Swedish students were heavily influenced by study counsellors who advised them to enrol in academic paths. Especially if students had attained good grades in compulsory school. Perhaps, because of having chosen their studies based on their preferences, they were highly satisfied with the programmes they were enrolled in. In regard to experiences, besides the apprenticeships included in their programmes, Swedish students had had few working experiences. Thus, apprenticeships turned very useful in several aspects. For example apprenticeships increased students' confidence in themselves. They also served to grow networks and, finally, to put in practice what they had learnt in the programmes. Lastly, in terms of employability perspectives, Swedish students expressed that the more important personal attributes to perform their job were socialization and team-work. They saw themselves as ready to join the labour market, especially after the apprenticeship period, because they were confident in themselves. Finally, they thought their employment outlook was good because of a shortage of health personnel in the sector.

Students in Catalonia chose their programmes because several reasons. Among them, liking the programme and improving their position in the labour market were the most notorious. External influence did have a different impact on them. In contrast to their Swedish counterparts, they did not enjoy the figure of a school counsellor. Studies satisfaction, in addition, was not excessively high because of the way apprenticeships were organised or the programme content. Regarding experiences, most students in Catalonia had had work experiences before enrolling in their programmes. In fact, having worked before was, sometimes, the reason to enrol in vocational education. Because of that, they found they had already a good deal of knowledge about the world of work. Nonetheless, they regarded apprenticeships as a good stepping-stone into the labour market because they provided confidence and experience. On their employability perspectives, students in Catalonia expressed that having knowledge, good attitudes, motivation and team-work spirit were the most important personal attributes in terms of finding employment after graduation. In addition, they felt confident to join the labour market especially after having done the period of apprenticeship in which they learnt how to perform a job in an actual workplace. However, they did not see the employment outlook to be very attractive because they felt working conditions were not good enough.

5. DISCUSSION

In describing how neoliberalism influences education discourses, Leach goes on to state that "the role of governments and others in positions of power is to ensure individuals have

the knowledge, skills, powers and freedom to become innovative entrepreneurs in the competitive global market place" (Leach, 2017). This social order is clearly identified in the policy documents analysed in the two contexts of this research. In several occasions policy documents stress the need of individuals to acquire knowledge to become employable in the global labour market and to embrace the culture of entrepreneurship. Because of the development of new forms of work in a neoliberal context such as technological innovations, multicultural workplaces or flexible working times, vocational programmes put emphasis on students acquiring not only subject knowledge but also the so-called soft skills, embracing communication, team-work, or problem-solving skills. In addition, this is part of the process Leach calls 'cooling out' in which individuals are made responsible of their situation in a context of weak labour markets (Leach, 2017). In addition, most conceptualisations of employability found in the literature focused on the individual aspect of employability (Cremin, 2009; Finch, Hamilton, Baldwin, & Zehner, 2013b; Gedye & Beaumont, 2018; Graham, 2017; Howieson, Mckechnie, & Semple, 2012; Siivonen & Isopahkala-Bouret, 2016; Tomlinson, 2017). In this regard, Kendall and French (2018) argue that this is a consequence of education policies being informed by neoliberal accounts in which self-interested individuals and deregulation of markets are core elements.

In the case of this research, vocational education students argued that individual factors were important regarding their chances to get a job. However, they were aware of other aspects external to them such as labour demand by the part of employers. These findings suggest some resemblance to issues found in the literature on employability such as human capital, psy-

chological capital, career management, and contextual factors (Williams et al., 2016). As we have seen, students in Sweden had more defined reasons to enrol in the programmes they did whereas students in Catalonia enrolled because of indecision or the need to improve their working conditions, suggesting, thus, that career management and human capital aspects are of some importance to employability. Students arguing that apprenticeships helped them to gain confidence in themselves could be linked to aspects of psychological capital. Finally, contextual factors were also of importance to the extent that students in Catalonia asserted that they were ready to join the labour market but they meagreness of employment opportunities could curtail their employability perspectives.

6. CONCLUSION

A first conclusion is that employability is discussed in policy discourses as both a situation vocational graduates encounter and a quality they must possess. In the two contexts analysed, work is the cornerstone factor to drive economic growth and also, according to the representations of the world made by educational authorities, societal development. In the case of Sweden, in addition, cultural aspects are also emphasised as part of the discourse but in a way that these not pose a challenge to the discourse of economic growth; there is neither mention of democratic values being a counterbalance to capitalism nor even a mention to industrial conflict between employers and workers. Under the framework, then, of an unchallenged discourse of productivity and competitiveness, policy portrays employability as the necessity for societies to manage the workforce in a

way that reaps off as much productive labour as possible. As we have seen, this representation of the world creates social order and social identities materialized in the role of schools and the identities of students. Vocational programmes, for example, have as a goal to form a skilled and adaptable workforce and, to promote entrepreneurship. Students of vocational education, on the other hand, are required to develop a vocational identity in which they adopt the logics of perpetual development in terms of career, at any expense.

A second conclusion of the study is that students of vocational understand employability as the goal and expected outcome of their studies, i.e. vocational education is the necessary but not unique mean to achieve employment. This understanding is linked to the discourse of employability drawn in policy documents. In one hand, students assume the paradigm of endless economic growth and do not challenge it, in some cases because they do not have the chance to do so because of material conditions. In the other hand, students of vocational education attend those programmes in order to improve their chances of employment by upskilling themselves in a field they like. However, they acknowledge that acquiring the necessary knowledge to perform a job is not enough to be employable. They realize that developing a vocational identity, based in soft skills and employer-friendly attitudes, is a necessary option to thrive in the labour market.

REFERENCES

Brown, P., Hesketh, A., & Wiliams, S. (2003). Employability in a Knowledge-driven Economy. Journal of Education and Work, 16(2), 107–126. https://doi.org/10.1080/1363908032000070648

Cremin, C. (2009). Never Employable Enough: The (Im)possibility of Satisfying the Boss's Desire. *Organization*, *17*(2), 131–149. https://doi.org/10.1177/1350508409341112

Dovemark, M., Kosunen, S., Kauko, J., Magnúsdóttir, B., Hansen, P., & Rasmussen, P. (2018). Deregulation, privatisation and marketisation of Nordic comprehensive education: social changes reflected in schooling. *Education Inquiry*, *9*(1), 122–141. https://doi.org/10.1080/20004508.2018.1429768

Erikson, R., & Rudolphi, F. (2010). Change in Social Selection to Upper Secondary School — Primary and Secondary Effects in Sweden. *European Sociological Review*, *26*(3), 291–305. https://doi.org/10.1093/esr/jcp022

Fairclough, N. (2013). *Critical Discourse Analysis. The Critical Study of Language* (2nd ed.). Oxon: Routledge.

Finch, D. J., Hamilton, L. K., Baldwin, R., & Zehner, M. (2013a). An exploratory study of factors affecting undergraduate employability. *Education and Training*, *55*(7), 681–704. https://doi.org/10.1108/ET-07-2012-0077

Finch, D. J., Hamilton, L. K., Baldwin, R., & Zehner, M. (2013b). An exploratory study of factors affecting undergraduate employability. *Education + Training*, *55*(7), 681–704. https://doi.org/10.1108/ET-07-2012-0077

Gedye, S., & Beaumont, E. (2018). "The ability to get a job": student understandings and definitions of employability. *Education + Training*. https://doi.org/10.1108/ET-10-2017-0159

Graham, D. (2017). Embedding employability behaviours. *Journal of Wokr-Applied Management*, *9*(1), 35–50. https://doi.org/10.1108/JWAM-01-2017-0001

Howieson, C., Mckechnie, J., & Semple, S. (2012). Working pupils: challenges and potential. *Journal of Education and Work*, *25*(4), 423–442. https://doi.org/10.1080/13639080.2012.708723

Leach, T. (2017). "Cooling out the marks": the ideology and politics of vocational education in an age of austerity vocational education in an age of austerity. *Research in Post-Compulsory Education*, *22*(2), 221–236. https://doi.org/10.1080/13596748.2017.1314681

Lundahl, L., Arreman, I. E., Holm, A., Lundström, U., Lundahl, L., Arreman, I. E., … Lundstro, U. (2013). Educational marketization the Swedish way. *Education Inquiry*, *4*(3), 497–517. https://doi.org/10.3402/edui.v4i3.22620

McDonald, P., Grant-Smith, D., Moore, K., & Marston, G. (2019). Navigating employability from the bottom up. *Journal of Youth Studies*, 1–18. https://doi.org/10.1080/13676261.2019.1620925

McQuaid, R. W., & Lindsay, C. (2005). The concept of employability. *Urban Studies*, *42*(2), 197–219. https://doi.org/10.1080/0042098042000316100

Nylund, M., Rosvall, P. Å., & Ledman, K. (2017). The vocational–academic divide in neoliberal upper secondary curricula: the Swedish case. *Journal of Education Policy*, *32*(6), 788–808. https://doi.org/10.1080/02680939.2017.1318455

Reid, J. (2016). Redefining "Emplyoability" as something to be achieved. *Higher Education, Skills and Work-Based Learning*, *6*(1), 55–68. https://doi.org/http://dx.doi.org/10.1108/HESWBL-02-2015-0005 Downloaded

Siivonen, P., & Isopahkala-Bouret, U. (2016). Adult graduates' negotiations of age(ing) and employability. *Journal of Education and Work*, *29*(3), 352–372. https://doi.org/10.1080/13639080.2014.939161

Tomlinson, M. (2017). Forms of Graduate Capital and their Relationship to Graduate Employability. *Education + Training*, *59*(4). https://doi.org/http://dx.doi.org/10.1108/ET-05-2016-0090 Downloaded

Verger, A., & Curran, M. (2014). New public management as a global education policy: its adoption and re-contextualization in a Southern European setting. *Critical Studies in Education*, *55*(3), 253–271. https://doi.org/10.1080/17508487.2014.913531

Wheelahan, L. (2007). How competency-based training locks the working class out of powerful knowledge: A modified Bernsteinian analysis. *British Journal of Sociology of Education*, *28*(5), 637–651. https://doi.org/10.1080/01425690701505540

Williams, S., Dodd, L. J., Steele, C., & Randall, R. (2016). A systematic review of current understandings of employability. *Journal of Education and Work*, *29*(8), 877–901. https://doi.org/10.1080/13639080.2015.1102210

Wilton, N. (2014). Employability is in the eye of the beholder Employer decision-making in the recruitment of work placement students. *Higher Education, Skills and Work-Based Learning*, *4*(3), 242–255. https://doi.org/10.1108/HESWBL-07-2014-0027

Dual vocational training in Spain, comparison with the German model and proposals for improvement

Jesús Alemán Falcón[*], María A. Calcines Piñero & Lázaro Moreno Herrera

Abstract: The bases that support the dual system in Spain as well some recommendations to improve its implementation will be exposed in this chapter. Firstly, both the structure of the spanish dual vocational training and its organizational differences among the autonomous communities are explained. Secondly a comparative study between the Spanish and German dual system is carried out due to the latter has been a key part in the economic development of Germany, becoming a reference model at the international level. For that purpose it will be analyzed specific aspects related to the duration of the training, the selection of the apprentices or their economic remuneration. Then, it deepens in the student evaluation procedure as well as in the required training for the company trainers. Furthermore, not only the role of the Chambers of Companies is addressed, but also the Joint Training Facilities, which have been an essential tool for small and medium enterprises. Finally, a set of rec-

*   Correspondence: jesus.aleman@ulpgc.es

ommendations for the improvement of the Spanish dual system are presented.

1. INTRODUCTION

The dual vocational training starts in Spain in 2013 with the objective of combining the teaching and learning processes in the company with those developed in the vocational schools (Ministerio de Empleo y Seguridad Social, 2014). It was at that time a new innovative modality in Spain in the field of VET that aimed at the pursuit of excellence as well as fostering a culture of dual vocational training in companies and schools. The purpose was also to provide individuals with the necessary specialized training as well as bringing VET closer to the socio-economic reality of the labor market.

With the implementation in Spain of this new training system, the Spanish Government as well intended that companies not only participate more actively in the instructional process of students but also know in depth about the training received by the students.

It is needed to take into account that Spain is a country with a decentralized public administration among the different autonomous communities who have assumed many of the competences that were before the State, especially in non-university education. For this reason, some autonomous communities have included in their regulations the need to promote collaboration with companies through the development and realization of dual professional training experiences such as did the Canary

Islands in the Canary Law of Non-University Education (Presidencia del Gobierno de Canarias , 2014).

Before analyzing how dual vocational training has been implemented in Spain, it is helpful to know how its structure is. In this sense, once a student has obtained the title of Graduate in Compulsory Secondary Education, he can choose to take a Baccalaureate or professional studies. Choosing this last route, the student access the Intermediate level training cycles obtaining at the end of it the title of Technician in the corresponding subject matter. There are also post-secondary training programs; they are the Higher level Training cycles. They are accessed with the title of Bachelor or also with the title of Technician. Once completed these studies, the title of Advanced Technician is obtained. All training cycles are grouped into 26 professional families organised by a modular structure. Nevertheless, an alternative route called Basic level training cycles is offered for students who have failed during secondary education and did not access either the Baccalaureate or the Intermediate level training cycles (Alemán and Calcines, 2019). This is intended to prevent the Early School Leaving. Upon completion of the training, these students obtain a basic professional degree that allows them to perform basic prevention functions (Jefatura del Estado, 2013).

Finally, it is necessary to indicate some specificities about how the Spanish productive system is constituted. According to the latest data provided by the Ministry of Industry, Commerce and Tourism, there are currently 2,886,759 companies in Spain. Of these, 1,559,798 are self-employed, that is, small businesses without employees, made up of one person. In addition, 1,322,261

companies have between 1 and 249 employees, with 86% of them between 1 and 9 workers. There are only 4,700 Spanish companies that have more than 250 employees (Ministerio de Industria, Comercio y Turismo, 2019).

2. ORGANIZATIONAL STRUCTURE OF DUAL VOCATIONAL TRAINING IN SPAIN

The Royal decree 1529/2012 (Ministerio de la Presidencia, 2012) came to establish the legal framework for the development of dual VET projects in the Spanish educational system, with the co-participation of vocational schools and companies. The development of these dual vocational training projects seeks to facilitate the labor insertion of students, increase the linkage and co-responsibility of the business fabric with vocational training as well as strengthen the relationship of teachers in vocational schools with companies in the sector. Unlike ordinary Vocational Training, where the apprentice puts into practice in the company what they have learned in the vocational school, the student of Dual FP not only actively participates in the production process, but also learns in a real environment of job.

The increase of Dual VET in Spain has been extraordinary; an example is Andalusia where it has gone up from 12 projects and 207 students in the 2013–2014 academic year to 321 projects and 3,967 students in the 2017–2018 academic year (Caballero, García & Lozano, 2018). In the 2018–2019 academic year, 411 projects, 5001 students, 205 educational centers and 3282 companies involved have been reached (Junta de Andalucía, 2018). At the national level, according to the latest data published by the Ministry of Education, 795 centers taught this type of stud-

ies in Spain during the 2016–2017 academic year reaching the figure of 20,357 students (Ministerio de Educación y Formación Profesional, 2019). It is, therefore, a incredibly rapid rise in a few years.

According to this Royal Decree, the dual vocational training projects in Spain must be authorized by the Educational Administration of each Autonomous Community and they have to be formalized through an agreement with the collaborating company under the conditions established by the Educational Administrations themselves. Therefore, there are some differences between the different territories that make up the Spanish State. In general, the agreement established between both parties includes the training program, the number of participating students, the schedule in the vocational school and in the company, as well as the conditions that companies, students, teachers and trainers of companies must fulfill. Likewise, the scholarship regime is specified, that is, the amount of money that each student receives in the company under the dual modality, as well as all the necessary insurance for students and teachers. Some autonomous communities indicate very specific conditions for companies, such as Castilla y León, which states that they must develop productive activities directly related to at least two professional modules of the professional training program object of the project and that the workers union must know the characteristics of the project (Presidencia de la Junta de Castilla y León , 2017).

In case a company presents a dual vocational training project in more than one Autonomous Community, the authorization of this project corresponds to the Ministry of Education of the Spanish government.

As noted above, there are differences among the autonomous communities. In fact, in the regulations of the Autonomous Community of Madrid, which is applicable to authorized both public and private schools (Consejería de Educación, Juventud y Deporte, 2017), it is established that the duration of the dual training is two years, with the student remaining in the company for 12 consecutive months. During the first year, students will be in school from October to June. Then they start attending the company from July to June of the following year, thus completing the second school year. During these twelve months, the student remains full-time according to the company's schedule. Only in the case that a double degree is taught, the training lasts three years. However, in the case of the Autonomous Community of the Basque Country, the Dual FP model is developed based on two modalities with different duration, one of them is designed to reinforce the skills acquired in the Vocational Training Cycles and the second, to acquire a professional specialization in order to respond to the technological needs and complexities presented by the Basque productive fabric (Euskadi Lanbide Heziketa, 2017). The first modality has a duration of two years, that is, between 2400 and 2800 hours, of which 1450 to 1600 hours are taken in the educational center and 800 to 1200 hours in the company. The second modality lasts three years, with which a specialization is acquired that serves to respond to the needs of the companies, according to their complex production processes. The total duration varies between 3400 and 4700 hours, of which 1750 to 1950 hours are taken in the vocational school and between 1800 and 3100 hours, in the company. With respect to the Autonomous Community of the Canary Islands, the duration of the project is the same as that

established in the ordinary VET, that is, two school years (2000 hours). Therefore, the beginning and end of the dual vocational training courses coincide with those of the teaching activity of each school year. Likewise, the first quarter of the project is carried out in the educational center, in order to ensure that the needed previous knowledge acquirement has been achieved so that the training activity in the company was carried out with the appropriate hygiene and occupational safety conditions (Dirección General de Formación Profesional y Educación de Adultos de Canarias, 2019). The project to be approved is submitted by the vocational school to the Canary Islands Regional Ministry of Education and it specifies the annual and monthly distribution of the course, that is, how many hours of the module will be taught in the company and how many ones in the school. Similarly, in the Autonomous Community of Andalusia, the first trimester also takes place only in the educational center while the remaining quarters, both of the first and second year are dual, that is, the students go as to the company as to the vocational school. However, during the third quarter of the second year, that is, during the last quarter of the training, students only go to the company (Formación Profesional Andaluza, 2018). On the other hand, in the Autonomous Community of Castilla y León it is established that students must take the first year of the training cycle in the vocational school. The training in the company will begin at the end of the first quarter of the second school year, after the first evaluation session of the modules of the VET program. There is also an expanded option of three school years. In this case, the period of training in the company will also begin in the second quarter of the second school year, but it will last until December or, where appropriate, until a

year of staying in the company was completed (Presidencia de la Junta de Castilla y León, 2017).

As far as the training in the company is concerned, the hours taught therein also vary from one autonomous community to another. Thus, in the Community of Madrid it is regulated that a minimum of 45% of the total training hours established in the training program will be provided (Consejería de Educación, Juventud y Deporte, 2017). In the Canary Islands, this minimum is 33%, although it can be extended depending on the characteristics of each professional module and the participating company. On the other hand, the regulations established by the Junta de Andalucía establish that the minimum and maximum total training number of hours in the company is 530 and 800 respectively, both for Intermediate level training cycles and for Higher level training cycles; in the case of Basic level training cycles, the range is located between 300 and 500 hours (Caballero, García y Lozano, 2018). Likewise, in Andalusia, training in the company must be carried out during the school period and between seven a.m. and and ten p.m. hours. It may also be requested an authorization to train on weekends or on holidays and after the scheduled time in order to attend the company's needs. The limit of 40 hours per week must not be exceeded. It should also be added that, in the case of the Community of Castilla y León, the period of training in the company will include a minimum of seventeen and a maximum of twenty-two weeks, reaching at least 660 hours, except in the Basic level training cycles in which the minimum stay will be 500 hours. In addition, in the expanded option of three school years, the training in the company lasts a minimum of thirty-five weeks and a maximum of one year, it must reach at least one 1200 hours and it will fin-

ish at the third school year (Presidencia de la Junta de Castilla y León , 2017). There are two ways to develop the dual vocational training project in this autonomous community. On the one hand, consecutively alternating training periods in the vocational school with one or several periods of stay in one or more companies. On the other hand, there is the option to combine training in the educational center and stay in the company in the same period of time. In both cases, the student's stay will never exceed forty hours per week or eight hours per day and it will take place between 6 am and 10 pm. Another important aspect in Castilla y León is that students are allowed to rotate between different companies in order to develop professional skills associated with training modules (Consejería de Educación de Castilla y León, 2017). These rotations can be in companies associated with the one that welcomes the student, companies that are part of a training consortium or, even also, among companies linked to the same vocational school which are part of a network for development set of dual training projects.

In relation to the economic benefit that each apprentice receives there are also territorial differences; thus, in the Community of Madrid, each student obtain a scholarship from the company, being 300 euros per month for those students who attend the Higher level training cycles and 200 euros for those who take Intermediate level training cycles. In addition to this, the company manages the registration in Social Security of each of the trainees, with the category of intern. On the contrary, in the case of the Canary Islands, the regulations include the possibility that students receive scholarships (Dirección General de Formación Profesional y Educación de Adultos de Canarias, 2019), but it is not mandatory for companies. In fact, the Canar-

ian students, in general, do not receive any kind of financial benefit for the work carried out in the company during the training. However the students in Castilla y León get a scholarship provided by the company which cannot be less than 50 percent of the legally established minimum interprofessional salary (Consejería de Educación de Castilla y León, 2017). Nowadays the minimum wage in Spain is 900 euros, so the students in Castilla y León must receive at least 450 euros.

The next point concerns to the requirements for the development of a dual VET project. In this respect, the vocational schools must have a prior authorization granted by the corresponding Autonomous Government which is different from that granted to provide ordinary teaching. Thus, in the case of the Community of Madrid, schools make a request that indicates which training cycles they wish to impart in this modality together with a justification of the project and a proposal of the training program that covers both training modules that will be taught at the school such as those that will be developed in the company.

Likewise, the school presents a proposal of the companies that will participate and the number of training positions offered by each of them for each training cycle. It is also established a commitment among the student, the vocational school and the company (Caballero, García y Lozano, 2018). With regard to the selection of the companies, in the case of the Autonomous Community of Andalusia, the coordinators of the dual project in the teaching center are the ones who watch over the suitability of the companies for the development of the VET program. Thus, they are responsible for determining if companies have the necessary spaces, the qualified personnel, the safety condi-

tions and the essential equipment to provide adequate training to students (Consejería de Educación de la Junta de Andalucía, 2018). As for the Autonomous Community of Castilla y León, the Official Chambers of Commerce, Industry, Services and Navigation can also intervene in the selection and validation of companies, in the training and designation of trainers as well as in the control and evaluation of the accomplished programming (Presidencia de la Junta de Castilla y León, 2017).

In general, companies together with the vocational schools can collaborate in the assignment and selection of students for the different training positions . Thus, in the case of the Community of Madrid, if the student is selected by the company after conducting an interview, he or she can accept or reject that position in the company (Dirección General de Formación Profesional y Enseñanzas de Régimen Especial, 2016). If the student is not accepted by the company, he or she can formulate the enrollment in the vocational school and carry out the training cycle in ordinary regime (CEPYME Aragón, 2019). In the case of the Canary Islands, the selection of students is based on objective criteria of competence and suitability that are established by the school although the collaboration of the company is allowed (Dirección General de Formación Profesional y Educación de Adultos de Canarias, 2019).

In the area of the evaluation of students, there is greater uniformity among the autonomous communities. In this sense, a teacher at the school is responsible for monitoring the training and progress of students during the period of stay in the company. Therefore, a monthly coordination mechanism is established between the school and the company for the monitoring of the training program. Thereby the detection of incidents

343

can be allowed so that it can intervene quickly and thus any arised problem can be solved. There is also a quarterly coordination, in which the evolution of the students in that period of time is recorded and their performance in the company is observed. Thus, the trainer of the company completes a report that includes the specific professional tasks that the student has developed in the company along with an assessment of each of them; in this report an observation scale about the student's attitude in the company must also be completed (Dirección General de Formación Profesional y Enseñanzas de Régimen Especial, 2018). The evaluation criteria they use for this are included in the didactic programming. To facilitate the tutoring work, the student can also prepare a monthly report of the activities carried out in the company, so that they are taken into account in the follow-up of their training.

With respect to the attitude of the student in the company, in the event that a student had some type of negative behavior during the training period, the company trainer must notify the tutor of the school and the director thereof, explaining the events and leaving written record of them. Once the allegations of the company have been analyzed, the director of the school decides, with the collaboration of the teaching team and the tutor of the school, if it is necessary to apply the sanctioning procedure provided by the regulations (Consejería de Educación e Investigación, 2019), or that the student change company.

In the case of the Basque Country, all these aspects are also taken into account, since as the Basque Government affirms in relation to this area, the company in no case replaces the vocational school which is the responsible for the programming, the design and the implementation of the monitoring plan and the

evaluation system, always in coordinating with each participating company (Euskadi Lanbide Heziketa, 2017).

In relation to the company trainer, the state legislation indicates that it must be designated by the business organization and that he or she must have an adequate professional qualification in addition to professional experience. The trainer is responsible for coordinating the tasks that the student must perform in the company during the training period as well as for the collecting documentary assessments of these tasks in order to be taken into account for the evaluation of the module. Likewise, the company tutor have to participate in the monthly follow-up meetings together with the tutor of the vocational school who will watch over the supervision of the tasks foreseen in the training program.

In the case of the Autonomous Community of Castilla y León, some more demanding requirements are established for company trainers; they must have a qualification of the same level or higher than those of the training cycle carried out by students as well as a professional experience of more than three years in the same job that is related to the training program that the student will develop (Presidencia de la Junta de Castilla y León, 2017). In addition, the Regional Ministry of Education of this autonomous community periodically organizes training activities certified by the public Administration for the company trainers to develop the work of tutoring.

Hereafter a comparative analysis will be carried out between the Spanish and German dual systems; this one has been a key part in the economic development of Germany and becoming an international reference model.

3. COMPARATIVE SIDES BETWEEN THE SPANISH AND THE GERMAN DUAL VET SYSTEM

The German dual vocational training system is characterized by offering well-qualified workforce to the business world, a factor that has led Germany to become a world economic power today. Therefore, this training system has become a benchmark for other countries such as Spain (Alemán, 2015). Therefore, a comparative analysis between Spain and Germany and a set of conclusions for each area will be carried out.

If we compare the development figures of the dual model in Spain with those in Germany, we find large differences. As indicated above, there are currently 20,357 students in Spain studying in 795 schools compared to 1,323,894 students in Germany. 58.2% of German students do so in the field of German industry and commerce and 27.5% in crafts; the remaining 14.3 is formed in the field of agriculture, public service, liberal professions, etc. (Bundesinstitut für Berufsbildung, 2019a). In fact, the dual system has a lot of social importance in Germany, given that, for example, in 2011, 47% of the German population aged between 18 and 26 had obtained a degree in the dual vocational training system (Vollmar & Klaukien, 2013). Logically these great differences are due to the historical development of both systems, being the Spanish model of very recent creation which has managed to multiply his figures by two thousand in six years. Therefore, growth in Spain is being exponential.

In relation to the duration of the training, it generally lasts two school years in Spain; however, there are autonomous communities that offer an extended three-year modality. In Germany, the duration of the training varies in each of the 318 pro-

fessions, with most of them being three years (Bundesinstitut für Berufsbildung, 2019b), although there are some of two years and others of three and a half years. The latter last longer because of the technical complexity of their teachings (Bundesministerium der Justiz und für Verbraucherschutz, 2005). Likewise, the curriculum taught in German companies is regulated by the Training Regulations that set the national standards for dual training in the company. They are decrees whose validity covers the entire German Federal Republic. In turn, the curriculum of each profession taught in the vocational school is established by each federated state, always taking into account the Teaching Framework Plan established by the Conference of Ministers of Education (KMK) (Kultusministerkonferenz, 2015). Therefore, if the duration of the training between both countries is compared, it is found that the time of stay in companies of Spanish students is shorter, so it is necessary to increase the total duration of the training cycle in Spain such as already It is being offered from some Spanish autonomous community through the extended three-year modality. This decision would have to be adopted for the whole country.

Regarding the economic benefit that each apprentice receives, there are territorial differences in Spain since, for example, in the Community of Madrid, each student receives a scholarship of 300 euros per month from the company. This amount is 450 euros in Castilla y León while, in the Canary Islands students do not receive anything. However, the situation in Germany is quite different. The average remuneration for an apprentice is 908 euros per month, 913 euros in the old federated states and 859 in the new ones. There are also different salaries depending on the profession. In fact, the apprentices receive 999 euros in

the public service while 975 euros is the amount paid in the field of industry and commerce. However, this amount is lower in the agriculture sector, this being 767 euros (Bundesinstitut für Berufsbildung, 2019a). The company also intends to guarantee a sufficient number of qualified future technicians. In short, the comparative analysis indicates that it is necessary for students in Spain to receive an economic amount from the company that is really sufficient to meet the expenses generated by the training and, in turn, also take into account the productive tasks that apprentices carry out in the company.

As regards the selection of students who participate in dual training, it is usually a responsibility of the vocational school in Spain. For it the schools follow the objective criteria of competence and suitability, although the collaboration of the company in this selection is also allowed. However, in Germany, the students must find a training position in a company before they can enroll in a vocational school. For this, they can make use of the possibilities offered by the Federal Employment Agency through the Professional Guidance Centers (BIZ), as well as through applications and websites that inform about the number of learning positions offered by companies in a certain profession (Bundesagentur für Arbeit, 2017). The Chambers of Industry and Commerce and the German Craft Chambers as well offer information on this. Therefore, the selection of apprentices is carried out in Germany directly by the companies. In order to do this, the students fill out an application, attach both the certificate of notes and the Curriculum Vitae and then conduct an interview. Before making this selection, the companies plan the number of apprentices that they will need using a series of criteria. On the one hand, it is taken into

account the needs of personnel in the different structures of the company over a horizon of between three and five years. On the other hand, technological changes and those related to the organization of work are also valued. The proportion of specialists that will have to be covered in the future and that have to have their own specific training is also calculated (Cramer & Kieper, 2002). Finally, another determining factor is the image that the company shows before the society, since dual training is highly valued in Germany. In conclusion, from this analysis it follows that the company participate in the selection of students because it will train an apprentice who will likely become one of its future workers.

As for the evaluation of students, in Spain it is a teacher of the vocational school who is responsible for monitoring the training and progress of the apprentices during the period of training in the company. Therefore, a monthly and quarterly coordination mechanism is established between the school and the company for the monitoring of the training program and even a report on the professional tasks developed by student is completed by the company trainer in order to analyze the evolution of the students. Therefore, always in coordination with the trainers, it is the educational center that is responsible for programming, design and evaluation. In Germany, the evaluation process is in a different way. There are two important tests during the training: the intermediate and the final test. In fact, there are Training Regulations for each profession at the state level that indicate the content and duration of the tests. The intermediate exam is intended to be a test of the student's performance control that takes place before the end of the second year of training (Bundesministeriums der Justiz und für Verbraucherschutz, 2006). As

for the final test, this is carried out in Germany by an Evaluation Commission of the Chamber of Industry and Commerce or the Chamber of Crafts that will determine if the student has acquired the professional skills necessary for their profession. Each commission is made up of at least three people who are experts in a certain field. There must be the same number of delegates representing the employers and workers, both sides constituting two thirds of the total components of the commission. At least one teacher from the vocational school must also participate (Bundesinstitut für Berufsbildung, 2018). In this final test, there are written, oral and exam practice parts. However, the intermediate test of a large number of professions is being eliminated more and more in Germany. What is currently done in some of them is to divide the final exam into two parts (Bundesministeriums der Justiz und für Verbraucherschutz, 2013). The first one takes place before the end of the second year of training and the next one at the end of the studies. After obtaining a positive evaluation, the student receives three different certificates; one issued by the corresponding chamber, another by the vocational school and a third by the company in which he has developed his dual training. Consequently, there are large differences in the scope of the evaluation between the Spanish and German systems, since the huge participation and influence of German companies in the evaluation of students.

With reference to the trainers, the Spanish legislation indicates in a general way that they must have an adequate professional qualification as well as professional experience. However, in some Spanish autonomous communities, such as in Castilla y León, specific conditions are established for this. Thus, the company trainer must have a qualification of the same level or

higher than those contemplated in the training cycle taken by students and a professional experience of more than three years in the same job. In contrast to this, every German company that trains apprentices must have at least one accredited trainer why any worker can not assume this role. Thus, it is legally established that such trainers must have adequate both personal and professional aptitude. Therefore, they must have as the necessary professional competences, knowledge and skills as well the appropriate pedagogical qualifications. Consequently, there is a test regulated by the Ordinance on Trainer Aptitude (AEVO) which they must take in the Chambers of Industry and Commerce or the Chambers of Crafts (Bundesministerium für Bildung und Forschung, 2009). The exam consists of a written part and a practice. The written proof is about the planning and organization of training, the learning processes, the teaching methodology and evaluation. In turn, the practical part of the exam is divided into two halves: the practical development of a didactic unit and an evaluation interview. In addition to training apprentices, trainers in small and medium enterprises develop other professional activities while those in large companies are generally full-time. In this vein, the German Federal Institute for Vocational Training (BIBB) offers a digital information and communication platform to the trainers in order to support them in the daily practice that they develop in companies. In 2017 there were a total of 636,078 registered trainers of which 85.9% belonged to the old states and 14.1% to the new federated states. 46.5% worked in industry and commerce, 32.6% in craft trades, 13.6% in liberal professions, 3.8% in agriculture and 3.1% in public service (Bundesinstitut für Berufsbildung, 2019a). The rate of German company women trainers in 2017 was 25.7%.

In conclusion, there is clearly still that the level of training of company trainers is much more demanding in Germany than in Spain so it is an indicator of quality in the training received by apprentices. In fact, the application of the Ordinance on Trainer Aptitude (AEVO) was suspended in Germany from 2003 to 2009 in order to increase the number of trainers. Over that time period, it was found that not only there was a decrease in quality but also that there was an increase of both the apprentices who dropped out of the company and the number of young Germans who suspended the final tests. Therefore, having technically and pedagogically well-trained company trainers means that the quality of the training provided is larger. Therefore, it is needed that the criteria established to be a tutor were regulated in Spain through the rise of the technically and pedagogically levels of demands.

As regards the role played by the Chambers of Companies in dual vocational training, they have an irrelevant role in Spain. With the possible exception in some autonomous communities, as the case of Castilla y León whose Business Chambers can intervene in the selection and validation of companies, as well as in the control and evaluation of program compliance. However, the level of involvement at the national level is generally low. By contrast, in the case Germany, not only the Chambers of Industry and Commerce and the Chambers of Crafts but also those belonging to liberal professions are involved in vocational training as well as in the professional development. So much so that there is a Vocational Training Committee in each chamber (Bundesministerium für Bildung und Forschung, 2018). This committee is made up of representatives of the employers, representatives of the workers appointed by the unions and teach-

ers of vocational schools proposed by the educational authorities. Its purpose is to decide whether companies have adequate facilities to provide training, organize evaluation tests, issue certificates and develop industry-wide training. In addition, it is responsible for applying the measures established by the Professional Training Commission of the Federated State. Likewise, the commission receives information on the tasks performed by the vocational training advisor who depend on the Chamber. The figure of the vocational training advisor was created in order to comply with article 32 of the Federal Law on Vocational Training, which states that the Chambers of Industry and Commerce and the Chambers of Crafts are the competent body will supervise the development of the training given in companies (Bundesministerium der Justiz und für Verbraucherschutz, 2005). Therefore, these vocational training advisors are responsible for guiding both the trainers and those in charge about the training of apprentices by means of advising on issues related to legal regulations and the learning contract. They must also determine whether the conditions for training in the company are adequate, so they examine the status of the workshops, the personal and academic qualification of the trainers as well as the relationship between the number of learning positions and the number of trainers available in the company. They are also responsible for advising apprentices on their contractual rights and duties as well as exercising supervisory functions, observing compliance with the training regulations and the company's training plan. It must be taken into account that it is especially important both to verify that the apprentices only do work tasks belonging to the training and to eye the role developed by the trainers (Industrie- und Handelskammer, 2019). In Ger-

many, the vocational training advisor organizes his advisory and inspection activity by regularly visiting companies. He must record all these advisory and supervisory actions in the minutes established by the chambers. It should be added that the activity carried out by the vocational training advisor requires a lot of care because, since in addition to advising, they must supervise the compliance with the law which may trigger sanctions against individuals or companies.

From this comparative analysis it is inferred that it would be necessary for Spain to have a similar figure like the vocational training advisor in order that he could visit the companies, supervise the apprenticeship training plan and verify the suitability of the trainers and the workshops in which the training is given. It would be an indispensable figure in order to raise the quality of dual VET in Spain.

The next point is the type of companies and their relationship with training. As indicated above, there are currently 2,886,759 companies in Spain, of which the majority are self-employed or small businesses between 1 and 9 workers. This reason conditions greatly the implementation of dual VET because it is easier to develop in large companies than in those of small size. In this sense, in Germany there is a type of centers called Joint Training Facility (ÜBS) which are intended to complement the training given in small and medium enterprises. The teachings taught in these institutions began to be organized by the Federal Government at the beginning of the 70s of the last century with the purpose of improving VET in Germany. In fact, these institutions are indirectly referred to in the Federal Law on Vocational Training, since article 27 makes reference to these small companies that cannot train in all professional competences estab-

lished by the regulations. They must do it in a location outside the company (Bundesministerium der Justiz und für Verbraucherschutz, 2005). These places are the Joint Training Facilities which are significant because of the importance they have not only in the field of dual VET but also in professional development activities, especially for craft companies as well as the agricultural sector and for industries (Drewes, 2008). Currently in Germany there are over a thousand such centers (Nause, 2018). In short, it is a fundamental tool that guarantees the training in the different professional competences that cannot be achieved in the company's ordinary facilities, especially in those companies that are small-sized (Bundesinstitut für Berufsbildung, 2019a). These companies find it difficult to have adequate facilities due to the costs it generates. Another reason is that, in certain specialties, new technologies require a high degree of specialization which these companies do not have.

As far as the specific characteristics of these joint training facilities there are different types. On the one hand, there are institutions with only one company trainer (sometimes employed only part-time) that is responsible for the teaching content in a particular profession. On the other hand, there are centers that do cover a wide range of professions, with a list of specialists as well as their own administration. As for the personnel employed in this type of institutions, this is also very varied: from specialized workers, through master craftsmen to technicians and engineers. Some of these Joint Training Facilities have an internship service for apprentices from other distant locations. The teachings taught by them are organised in two or three blocks of one to three weeks duration. Hence, there are coordination committees among these training centers, com-

panies and vocational schools in order to guarantee the quality of the training provided (Bundesministerium für Bildung und Forschung, 2016). Currently, the Federal Government promotes converting these institutions into centers of competence, so that they can make innovative qualification offers in a certain professional field (Bundesinstitut für Berufsbildung, 2019a).

In short, it can be said that these Joint Training Facilities respond to the difficulties that small and medium-sized German companies have to train apprentices. In the case of Spain, it would be very important that similar institutions existed in the country, since they would serve as support for small and medium enterprises to participate in dual training (Nause, 2018). It must not be forgotten that most Spanish companies are small-sized.

4. CONCLUDING REMARKS

After the comparative analysis between the Spanish and German dual systems, some conclusions can be drawn about how to improve the dual training offered in Spain. In fact, the creation of Spanish dual system is very recent although it has had an exponential growth in these six years of life. Despite this, the system requires improvements for its future expansion. Therefore, a key aspect is that decisions taken at the national level should be based on consensus among the autonomous communities in order to further unify the system. In addition, it would be important the participation of employers and trade unions in these decisions, as it has been done in the German dual system for decades.

With regard to the duration of the dual VET in Spain, the need for greater coordination at the state level is observed in

order to avoid imbalances that generate differences in terms of the duration and quality of the training received by the trainees, over all taking into account that the labor market in Spain is unique. Therefore, it would be necessary to increase the time of stay of the Spanish students in companies, so that the total duration of the dual VET in Spain should be three school years, as it is already being offered from some Spanish autonomous community through the extended three-year modality.

Likewise, it is necessary that the students in Spain receive a sufficient salary from the company that would serve both to meet the expenses generated by the training and to pay them fairly for the productive tasks they perform. So that it would not happen situations that has already occurred in some autonomous communities in which apprentices are paid with a tiny economic amount or even charge nothing. To do this, it is also important that Spanish companies participate actively in the dual system, particularly in the selection of the students whom they are going to train and who will probably become their future workers.

On the other hand, in relation to the evaluation of students, Spanish company trainers participate in the evaluation through their reports, but it would be desirable them to have a more notable and important role in this area. However, it is required that Spanish company trainers to be pedagogically and technically well trained given this being currently one of the weak points of the system. Hence, the authorities together with the Chambers of entrepreneurs have to make a greater effort in this regard. It is essential that the Chambers of Spanish entrepreneurs become more involved in dual VET. One of the measures that not only could but should be taken is the creation of the fig-

ure of the vocational training advisor who could visit the companies and supervise the quality of the training as well as its conditions of developing. It is an indispensable figure to be able to raise the quality of the Spanish dual VET.

Finally, given the fact that most companies in Spain are small-sized, it is essential that there be Joint Training Facilities. It would be a very useful instrument for small and medium-sized companies to also participate in dual VET. It would help to offset the difficulties they usually have due not only to not having adequate facilities but also to the high degree of specialization required by new technologies. Therefore, the involvement of the different sectors, it means the business chambers and of the Spanish public administrations, is required in the promotion and construction of this type of teaching centers.

In conclusion, the implementation in Spain of dual VET entails an economic cost for companies but this investment generates multiple benefits in the long term. Not just that companies are given the opportunity to have qualified apprentices based on their needs as well to have workers who become the generational replacement. Therefore, the dual VET system not only allows the business world to have a highly qualified workforce and to respond effectively to the demands of the economic-productive environment but also contributes to a higher level of social welfare of the population.

REFERENCES

Alemán, J. (2015). El sistema dual de formación profesional alemán: escuela y empresa. *Educação e Pesquisa, 41*(2), 495–511.
Alemán J. y Calcines M. (2019) Inclusion of Unemployed People at Social Risk and Private Training Markets in Ireland, Portugal, and Spain. In: McGrath

S., Mulder M., Papier J., Stuart R. (eds) *Handbook of Vocational Education and Training. Developments in the Changing World of Work*. Basel, Switzerland: Springer.

Bundesagentur für Arbeit (2017). *Jetzt auch online: Berufswelten im Überblick*. Recuperado de https://abi.de/data/File/Lehrer/171006_Flyer_BFI-Online.pdf

Bundesinstitut für Berufsbildung (2018). *Richtlinie des Hauptausschusses des Bundesinstituts für Berufsbildung. Musterprüfungsordnung für die Durchführung von Abschluss- und Umschulungsprüfungen*. Köln: Bundesanzeiger Verlag. Recuperado de https://www.ihk.de/documents/38722/91011/Musterpr%C3%BCfungsordnung/1960b677-27f3-4954-8dc6-88b61d9ebaf1?version=1.2

Bundesinstitut für Berufsbildung (2019a). *Datenreport zum Berufsbildungsbericht 2019. Informationen und Analysen zur Entwicklung der beruflichen Bildung*. Leverkusen: Verlag Barbara Budrich

Bundesinstitut für Berufsbildung (2019b). *Verzeichnis der anerkannten Ausbildungsberufe 2019*. Recuperado de https://www.foraus.de/html/foraus_verzeichnis-der-anerkannten-ausbildungsberufe-2019-12109.php

Bundesministerium der Justiz und für Verbraucherschutz (2005). *Berufsbildungsgesetz vom 23. März 2005 (BGBl. I S. 931), das zuletzt durch Artikel 14 des Gesetzes vom 17. Juli2017 (BGBl. I S. 2581) geändert worden ist*. Recuperado de http://www.gesetze-im-internet.de/bbig_2005/BBiG.pdf

Bundesministerium der Justiz und für Verbraucherschutz (2006). Verordnung über die Berufsausbildung zum Tischler/zur Tischlerin vom 25. Januar 2006 (BGBl. I S. 245). Recuperado de https://www.gesetze-im-internet.de/tischlausbv_2006/TischlAusbV_2006.pdf

Bundesministerium der Justiz und für Verbraucherschutz (2013). Verordnung über die Berufsausbildung zum Kraftfahrzeugmechatroniker und zur Kraftfahrzeugmechatronikerin. Recuperado de https://www.bibb.de/tools/berufesuche/index.php/regulation/kraftfahrzeugmechatroniker2013.pdf

Bundesministerium für Bildung und Forschung (2009). *Ausbilder-Eignungsverordnung*. Köln: Bundesanzeiger Verlag. Recuperado de https://www.foraus.de/media/ausbilder_eignungsverordnung.pdf

Bundesministerium für Bildung und Forschung (2016). Überbetriebliche Berifsbildungsstätten. Starke Partner der Wirtschaft. Bielefeld: W. Bertelsmann Verlag

Bundesministerium für Bildung und Forschung (2018). *Ausbildung & Beruf. Rechte und Pflichten während der Berufsausbildung*. Bielefeld: W. Bertelsmann Verlag

Caballero M.A., García C. y Lozano P. (2018). *FP Dual, claves de la Formación Profesional dual para centros educativos*. Barcelona: Fundación Bertelsmann & Nestlé, SA.

CEPYME Aragón (2019). *Programa Ibercaja Orienta. Información académico profesional. Formación profesional dual Madrid. Curso 2019–2020*. Zaragoza: CEPYME Aragón.

Consejería de Educación de Castilla y León (2017). Orden EDU/398/2017, de 24 de mayo, por la que se desarrolla el Decreto 2/2017, de 12 de enero, por el que se regula la formación profesional dual del sistema educativo en la Comunidad de Castilla y León. Publicado en *Boletín Oficial de Castilla y León,* nº 104, de 2 de junio de 2017. España.

Consejería de Educación de la Junta de Andalucía (2018). Orden de 20 de marzo de 2018, por la que se convocan proyectos de Formación Profesional Dual para el curso académico 2018/2019. . Publicado en *Boletín Oficial de la Junta de Andalucía,* nº 64, de 4 de abril de 2018. España.

Consejería de Educación e Investigación (2019). Decreto 32/2019, de 9 de abril, del Consejo de Gobierno, por el que se establece el marco regulador de la convivencia en los centros docentes de la Comunidad de Madrid. Publicado en *Boletín Oficial de la Comunidad de Madrid*, nº 89, de 15 de Abril de 2019. España

Consejería de Educación, Juventud y Deporte (2017). Orden 2195/2017, de 15 de junio, de la Consejería de Educación, Juventud y Deporte, por la que se regulan determinados aspectos de la Formación Profesional dual del sistema educativo de la Comunidad de Madrid. Publicado en *Boletín Oficial de la Comunidad de Madrid*, nº 150, de 26 de junio de 2017. España.

Cramer G. & Kieper K. (ed.) (2002). *Jahrbuch Ausbildungspraxis 2002*. Köln: Fachverlag Deutscher Wirtschaftsdienst Gmbh & Co. KG.

Dirección General de Formación Profesional y Educación de Adultos de Canarias (2019). Resolución de 21 de febrero de 2019, por la que se dictan instrucciones para la autorización e implantación de proyectos de formación profesional dual del sistema educativo en la Comunidad Autónoma de Canarias durante el curso 2019-2020. Publicado en *Boletín Oficial de Canarias*, nº 43, de 4 de marzo de 2019. España.

Dirección General de Formación Profesional y Enseñanzas de Régimen Especial (2016). *Guía para la gestión de los procesos de selección de formación profesional dual 2016–2018.* Madrid: Consejería de Educación, Juventud y Deporte de la Comunidad de Madrid.

Dirección General de Formación Profesional y Enseñanzas de Régimen Especial (2018). *Orientaciones sobre la elaboración del programa formativo dual.* Madrid: Consejería de Educación, Juventud y Deporte de la Comunidad de Madrid.

Drewes C. (2008). Zukunft und Gestaltung der überbetrieblichen Ausbildung. In F. Howe, J. Jarosch, G. Zinke (Hrsg.). *Ausbildungskonzepte und Neue Medien in der überbetrieblichen Ausbildung* (pp. 291–295). Bonn: Bundesinstitut für Berufsbildung.

Euskadi Lanbide Heziketa (2017). *Formación Profesional Dual en régimen de alternancia del País Vasco*. Vitoria: Gobierno Vasco.

Formación Profesional Andaluza (2018). *Formación Profesional en Andalucía. Curso 2018/2019*. Sevilla: Junta de Andalucía. Recuperado de http://www.juntadeandalucia.es/educacion/portals/ishare-servlet/content/34145fc8-27d7-4604-9a31-36a9ab2ac964

Industrie- und Handelskammer (2019). *Aufgaben der Ausbildungsberatung*. Frankfurt am Main: Industrie- und Handelskammer . Recuperado de https://www.frankfurt-main.ihk.de/berufsbildung/ausbildung/beratung/aufgaben/

Jefatura del Estado (2013) Ley Orgánica 8/2013, de 9 de diciembre, para la mejora de la calidad educativa. Publicado en *Boletín Oficial del Estado*, nº 295, de 10 de diciembre de 2013.España.

Junta de Andalucía (2018). *FP Dual 2018/2019: informe de datos*. Recuperado de http://www.juntadeandalucia.es/educacion/portals/ishare-servlet/content/629b144c-6408-4885-9677-c50d63c06cc5

Kultusministerkonferenz (2015). *Rahmenvereinbarung über die Berufsschule. Beschluss der Kultusministerkonferenz vom 12.03.2015*. Ständige Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland.

Ministerio de Educación y Formación Profesional (2019). *Panorama de la Educación. Indicadores de la OCDE 2019*. Madrid: Secretaría General Técnica del Ministerio de Educación y Formación Profesional.

Ministerio de Empleo y Seguridad Social (2014). Orden ESS/2518/2013, de 26 de diciembre, por la que se regulan los aspectos formativos del contrato para la formación y el aprendizaje, en desarrollo del Real Decreto 1529/2012, de 8 de noviembre, por el que se desarrolla el contrato para la formación y el aprendizaje y se establecen las bases de la formación profesional dual. Publicado en *Boletín Oficial del Estado* nº 10, de 11 de enero de 2014. España.

Ministerio de Industria, Comercio y Turismo (2019). *Cifras PYME. Datos de enero de 2019*. Recuperado de http://www.ipyme.org/es-ES/ApWeb/EstadisticasPYME/Documents/CifrasPYME-enero2019.pdf

Ministerio de la Presidencia (2012). Real Decreto 1529/2012, de 8 de noviembre, por el que se desarrolla el contrato para la formación y el aprendizaje y se establecen las bases de la formación profesional dual. Publicado en *Boletín Oficial del Estado* nº 270, de 9 de noviembre de 2012. España.

Nause, T. (2018). La Cámara Alemana presenta los resultados del proyecto JoinVET, financiado por la JPMorgan Chase Foundation. *Das Deutsch-Spanische Wirtschaftsmagazin. Economía Hispano – Alemana*, 4(2018), 85–88

Presidencia de la Junta de Castilla y León (2017). Decreto 2/2017, de 12 de enero, por el que se regula la Formación Profesional Dual del Sistema Educativo en la Comunidad de Castilla y León. Publicado en *Boletín Oficial de Castilla y León,* nº 9, de 16 de enero de 2017. España.

Presidencia del Gobierno de Canarias (2014). Ley 6/2014, de 25 de julio, Canaria de Educación no Universitaria. Publicado en *Boletín Oficial de Canarias*, nº 152, de 7 de agosto de 2014. España.

Vollmar M. & Klaukien A. (2013). *Berufsbildung auf einen Blick*. Wiesbaden: Statistisches Bundesamt.

Female Immigrants' Experiences in Language and Communication at Workplaces

Carin Cools, Johanna Lasonen
& Marianne Teräs

Abstract: This qualitative study investigates the challenges that immigrant women face at the workplace in Finland regarding language and interaction. The research searched the answers to the following questions: (1) How do highly educated immigrant women assess their Finnish language skills? (2) How do they perceive the social interaction at the workplace? The data were collected by interviews from educated immigrant women living in Finland. The data were analysed using thematic content analysis. The findings showed that women evaluated their Finnish language skills positively. Their social interactions at the workplace were mainly based on meetings where Finnish is the dominant language. The women also brought up positive experiences and built strategies to manage social interaction.

Keywords: immigrant women, workplace communication, language clusters, social interaction

*   Correspondence: marianne.teras@edu.su.se

1. INTRODUCTION

Unlike Australia, Canada, New Zealand, and the United States, for example, Finland has not traditionally grown through immigration. In the early 20th century Finland was a country of emigration to North America and Australia, and after the Second World War to Sweden. After the 1980s this trend was reversed when immigrants began to arrive in Finland in noticeable numbers (Jaakkola, 2005; Tanner, 2011). Nowadays immigrants form a distinctive group in Finnish society. Especially when it comes to accessing the Finnish labour market, it is quite challenging for immigrants to find employment corresponding to their qualifications and professional experience (Lasonen, 2009). Immigrants' struggle for fair employability is not limited to Finland only but takes place in other European countries as well. Moreover, it is partly gender-specific in the sense that the situation is even harsher for immigrant women (Biffl, 2008; ENAR, 2010; Gerritsen, 2010; Martikainen & Tiilikainen, 2007; OECD, 2012; Rubin, Rendall, Rabinovich, Tsang, Jant & Orjante-Nassau, 2008).

In their study, Rubin and colleagues (2008) showed that immigrant women have a double disadvantage, which arises from an environment of unequal opportunities in the labour market and affects them both as women and as immigrants. By the same token, immigrant women face a double challenge, i.e. first to settle in as foreign born people in their host country and then to overcome the gender bias in the labour market as well as in other areas of social, political and economic life (see Joronen, 2007). However, while highly educated immigrants experience a reduced status immediately after immigration, they gain better

status in the labour market of a host country after a period of adjustment (Chiswick et al., 2005).

According to OECD statistics (2015), two in three immigrants in OECD countries were employed in 2012–2013. This proportion was one percentage point higher than among the native population. In the European Union (EU) countries, where immigrants' employment rate was 62 per cent, the difference was bigger, about three percentage points. In Finland, the differences are notably bigger. Breaking down the rates by gender, Table 1 shows that women's employment rate is lower than that of men. Compared with the EU and OECD countries on average, Finland shows greater differences between the employment rates of native and foreign-born population. Furthermore, fewer immigrant women are employed than men.

Table 1.

	Women				Men				Total			
	Employment rate		Difference to natives		Employment rate		Difference to natives		Employment rate		Difference to natives	
	2006-07	2012-13	2006-07	2012-13	2006-07	2012-13	2006-07	2012-13	2006-07	2012-13	2006-07	2012-13
Finland	56.2	58.6	-12.1	-9.9	68.5	68.9	-3.3	-1.4	62.2	63.6	-7.9	-5.8
EU (28)	54.3	54.3	-4.5	-5.5	73.3	69.8	+1.1	-0.3	63.5	61.7	-2.0	-3.3
OECD (31)	57.5	57.0	-2.2	-2.1	78.5	74.8	+3.7	+3.1	68.0	65.7	+0.9	+0.3

Employment rates for foreign-born population by gender
in Finland, EU and OECD (OECD, 2015)

On the other hand, unemployment statistics for Finland show that in 2012–2013 the unemployment rate for female immigrants was 14.6% (for natives 7%) and for male immigrants 14.5% (for natives 8.5%) (OECD, 2015). Female immigrants' unemployment is thus twice as high as that of female natives.

One in three immigrants of working age in the OECD countries and one in four in the EU countries had a tertiary education degree. Nevertheless, highly educated immigrants have more difficulties to get jobs than their native counterparts. According to OECD (2015) statistics, 42 per cent of highly educated persons, who received their degrees in other than the host country, working in the EU countries have jobs mismatching with their education levels. In most cases, obviously, the jobs would require lower levels of education.

Educated immigrant women in Finland, having succeeded in the Finnish labour market, generally maintain employment to provide them with two crucial aspects, i.e. (1) meaning to life, and (2) facilitation of the integration process (Tiilikainen, 2008). Despite these immigrant women's successes in terms of employment, this study also reveals that the Finnish or Swedish or Sami language skills requirements in the job market are tough, and the ability to speak perfect Finnish is often considered a precondition for hiring. The immigrant women in this study also experienced barriers such as problems with written skills in Finnish and the non-recognition of education or professional experience from outside Finland (see also Tiilikainen, 2008).

Academic recognitions are decided by relevant educational institutes concerning, for example, how studies abroad will be credited for and what kind of eligibility to further studies this

may give. In practice, however, the recognition of prior qualifications is highly varied, and in many cases even trained professionals have to start their studies from the beginning (see Lasonen, Cools & Teräs, 2011).

The non-recognition of previous qualifications and even of accomplished Finnish education and professional experience, accompanied with certain requirements of Finnish language skills, undermine immigrants' possibilities to find proper employment and meaningful prospects for the future. One could assume that holding higher education qualifications, whether acquired abroad and/or in the host country would lead to finding a job accordingly. In the same vein, one could also assume that having years of professional experience would eventually lead to employment matching ones qualifications and expertise.

The issue of mastering the host country's language seems at times to remain a barrier for finding employment. Also, not all immigrants have opportunities to interact with whomever they wish, as their opportunities to practise the target language may be generally limited and socially restricted. Under such circumstances they may become marginalised and sensitive to rejection, take fewer risks in the use of language and thus never acquire a high level of communicative competence in the target language, which, in turn, prevents them from securing meaningful employment (Cervatiuc, 2009, 255).

Yet, it seems that an initial lack of fluency or a lack of a certain language competence (see Blommaert, Collins & Slembrouck, 2005) in the host country's language may be a sufficient reason for employers to disregard the educational and professional qualifications of a person with an immigrant background.

2. CONCEPTUAL FRAMEWORK

Theoretically and methodologically this interpretive study approaches the concept of adaptation from a dialogical communicative viewpoint. It includes the concepts of integration, multilingual convention, and relational communication.

Integration is a socio-political-psychologically based concept that is being used regarding immigrants' socialising in their new environment. The process of integration has been researched and practised in different fields of study, e.g. cross-cultural psychology, ethnic encounters, intercultural communication, international relations, and in national integration programmes. Integration occurs under various terms and processes such as social inclusion (Allman, 2013), as a final stage in the developmental model towards intercultural sensitivity (Bennett, 2004), as a cross-cultural psychological strategy of acculturation (Berry, 1997), and as integration services on a policy level (kotouttamis-palvelut in Finnish), a particular service in line with the Finnish immigrants' integration law of 15 October 2010 organised by the Ministry of Employment and Economy TEM, 2008). The common denominator of integration in all these terms and processes is the dialogical factor, or the presence of at least two distinct voices, according to Bakhtin (1981). There are always two parties; those who integrate and those who receive. One cannot have just one without the other. The act of integrating cannot be fulfilled if there is no receiving party. Especially in the context of immigration, Berry (1997) states that a reciprocal accommodation is required for integration to be achieved, involving the acceptance by both groups of the right of all groups to live as

culturally different peoples.

Multilingualism is the ability of an individual user or a group or community of users to use multiple languages. Especially at the multilingual work place language presents sources and challenges. One particular challenge is how to reconcile power implications of language choice with the need for effective communication. In order for the work place to have an effective language policy, it must carefully consider its linguistic needs and be able to develop and capture the linguistic knowledge of its employees to overcome communication barriers. Language policy can be understood as the explicit and implicit policies used in an attempt to change the language behaviour of individuals within a society. As such, language policy may support or discourage the use of languages or varieties of languages within a society (Thomas, 2007). Matters of multilingualism in the context of adaptation indicate dialogue or multivocality as they refer to language exchange as an act of conversation between people but they also point to the social experience constituted at the level of communicative exchange, i.e. dialogue between persons (see Dufva, 1998).

Relational communication from a relational dialectics perspective carries the notion of change. It entails, especially relevant in the context of immigrant women, the tensions or contradictions of certainty and uncertainty. Change also involves the Bakhtinian time-space chronotope, compared to or even substituted for turning point, i.e. the chronotope of threshold. This chronotope is connected with the moment of crisis, the decision that changes a life, or the indecision that fails to change a life, the fear to step over the threshold (Bakhtin, 1981). From a relational dialectics perspective, we can think of turning points

or crucial moments in the narrative of immigrant women's relationships (when they came to Finland) when the pressures of dialogic interplay are strong enough to bring about a change in their relationships. The chronotope of threshold or concept of turning points has also been referred to as the transformation factor (Baxter & Montgomery, 1996).

In this study we draw on the notion that the use of language and communication are dialogical processes (Bakhtin, 1981; Baxter & Montgomery, 1996) inherent to human understanding and adaptation (Kim, 2001). Bakhtin's dialogism means that he saw everything anybody ever says always in response to things that have been said before and in anticipation of things to be said. As a result, all language (and the ideas that language conveys) is dynamic, relational and engaged in an endless process of re-descriptions of the world (Paton, 2012). The connection between Bakhtin's dialogism and Baxter's and Montgomery's relational dialectics is so close that they are virtually interchangeable. Moreover, because dialogism is a general theory of social interaction rather than a context specific theory, dialogism can be extended to the context of personal relationships (Cools, 2011).

When coming to another country, immigrants are usually to learn another language, which is often a complex process linked to issues of culture and identity. Many scholars have studied and analysed the processes involved in learning a new language and the accompanying adaptation to a new cultural context (e.g. Kim, 2001; Lantolf, 2000; Pavlenko & Lantolf, 2000; Pöyhönen et al., 2009).

Given the premise that communication lies at the heart of cross-cultural adaptation, immigrants' communication activities in a new environment are central to the success of their

adaptation. Their communication activities can be conceptualised as having two inseparable dimensions: personal and social (host) communication. These include personal and host communication competence, and comprise the immigrant's foreign language learning and social management (Kim, 2001). Learning and managing a new language is at the core of this article and points to the highly educated immigrant women in Finland participating in this study. Host receptivity refers to the different levels of receptivity on the part of the receiving community toward the immigrants. Different societies and communities offer different degrees of receptivity for various groups of newcomers, including immigrants. In comparison to countries with a higher percentage of immigration, like Canada or Germany for instance, societies that are ethnically still rather homogeneous and geographically isolated, such as Finland, tend to offer relatively fewer opportunities for 'foreigners' to develop close interpersonal relationships with local people (Kim, 2001).

The conditions of the host environment, e.g. the degrees of receptivity and pressures for conformity, are essentially linked with these personal and social communication activities. According to Kim (2001), all these factors directly or indirectly contribute to explaining and predicting various levels of intercultural transformation within a given time period. Where Bakhtin, Baxter and Montgomery suggest dialogic change, Kim advocates the notion of intercultural transformation.

2.1 ORGANISATIONAL LANGUAGES

Immigrants' actual language proficiency will be evaluated, at the latest, during job interviews when applying for employment.

Furthermore, language proficiency and social interaction skills requirements apply to all the linguistic groups present at a workplace, including the native speakers of the dominant language. Then again, coping with the language and communicative needs depends not only on the immigrants but, as mentioned above, also on the environment. In the context of workplaces, this points to several implications for language management.

Language usage and communicative solutions in multilingual work environments can be considered from different perspectives. In line with Tange & Lauring (2009) we can distinguish between different languages in terms of their contexts: national languages and corporate or company languages.

A national language is tied to a particular geo-political unit (Anderson, 1990). As the preferred speech of a nation state, it is supported by a state apparatus and has a strong cohesive function, providing language users with a clear marker of social and cultural identity. A corporate language is the preferred speech of a corporation, which may or may not be territorially defined. While it is sometimes promoted as a symbol of organisational unity, its key purpose is task-accomplishment, overcoming any linguistic and cultural barriers to effective organisational communication. It helps internal and external communication as it provides a common medium for all members of the organisation and offers easy access to official information channels such as company reports or employee magazines (Tange & Lauring, 2009).

Bringing the language issue to a symbolic level, as Bourdieu (1991) did, one can say that any multicultural workplace environment entails dominant and dominated discourses, and those who master these discourses have power and control over others, and have more chances to be included. Those who lack ground

for these discourses – as do immigrants who do not necessarily get to grips with the language at first – are therefore prone to be excluded from all kinds of formal and informal interaction networks (Tange & Lauring, 2009). This means that different uses of languages and different varieties of the same language receive different value. It produces a system of social distinction, providing linguistic capital for those who have access to the specific means of language. According to Bourdieu (1991), different values assigned to different varieties are a form of symbolic power. It is 'symbolic' because it depends on people's belief in the social distinctions. A language's legitimacy depends on people recognising its legitimacy (Bourdieu, 1991).

2.2 MULTILINGUALISM AND LANGUAGE CLUSTERING

Plurilingualism is a manifestation of the capacity for speech, which is part of the genetic make-up of all human beings and which can be used in several languages in succession throughout a person's lifetime (Beacco, 2012). The Council of Europe differentiates between plurilingualism as a competence for speakers, an ability to use more than one language, and multilingualism, which refers to the presence of several languages within a given area.

According to Tange and Lauring (2009), multilingualism implies a co-existence of more than one language within the same organisation or society. It can be associated with multiculturalism and refers to codes developed within specific regional, ethnic, professional or social groupings, as well as the nation state.

The communicative practice of language clustering tends to emerge among personnel members in multilingual settings. It takes the form of informal gatherings between speakers of the

same national language. This phenomenon was observed by Marschan-Piekkari and colleagues (1999), for instance, in their study on a multinational organisation. It highlighted the power of language: Individuals who did not master the dominant language lacked access to a range of formal and informal communication channels, and were thus prevented from social bonding across the organisation. This also isolated them from information networks and decision making processes. In response, this led to language clusters (Marschan-Piekkari et al., 1999).

Also Tange's and Lauring's study (2009) on identifying communicative practices at the work place indicated that language diversity fuels the communicative practices of language clustering and thin communication. These practices disrupt information transfer and result in a disorganised use of human resources. Overcoming the barriers of clustering could implicate that managers have to increase the visibility of alternative groupings such as communities of practice, which typically transcend linguistic boundaries, and could involve, for instance, a re-organisation of labour. Thin communication refers to people being confined to a limited range of linguistic registers in their second or foreign language, and may have a negative impact on organisational information networks and knowledge transfers. Managers seeking to overcome this barrier will have to address the question of uncertainty.

This qualitative study looked at how highly educated immigrant women living in Finland (having a BA or MA degree from a university or other higher education institute) experienced their attempts to enter the Finnish labour market, to maintain a fair and supportive work environment, and to advance in their careers, i.e. getting promotions. The women's previous educa-

tional and professional background, their perceived language and communication skills as well as their perceived membership in Finland (the host society) were taken into account. To this end, the study focused on language and interaction at the workplace and the research questions are:

- How did highly educated immigrant women perceive their own Finnish language skills?
- How did highly educated immigrant women perceive the social interaction at the workplace?

3. METHODOLOGY

The sample for this qualitative study consisted of fifteen highly educated adult female immigrants living in Finland. The sampling procedure used a variant of purposive sampling, also called snowball (or network) sampling (Frey et al., 2000; Patton, 2002). In practice, this meant that the interviewees were selected on the basis of convenience (e.g. availability), and according to two criteria: minimum length of stay (3 years) and being highly educated. The requirement of the immigrant women being highly educated (having at least a BA degree from a university or other higher education institute) represented the actual topic of study as well as one established characteristic. The requirement for the length of stay in Finland being three years at minimum was applied because people experienced adaptation to another environment in different ways and time spans. Three years could be considered a reasonable time to get essentially habituated to a new country's customs and to receive a legal immigration status in the country. After the first participants were found, they

were asked to identify other qualified people who might be key volunteer informants for the study.

The women came from eight different countries and from six regions of the world: Central Asia (1), Europe (4), Latin America (1), North America (5), and North Eurasia (3), and South East Asia (1). They live in various places in Finland. Their ages at the time of interview ranged from 30 to 52, with a group average of 44.5 years, while the length of residence in Finland ranged from seven to 25 years with a group average of 12.6 years. Their average duration of employment was seven years, and three women were currently unemployed.

Data Collection

The main body of the data was collected by theme interviews during spring 2012. An essential point in theme interviews is that instead of following a certain predetermined list of questions the interview progresses fluently around central themes that allow freedom to change the order and form of questions so as to follow up the answers given and stories told by the interviewees (see Hirsjärvi & Hurme, 2000).

The interviews were conducted in English (6), Finnish (3) and German (2) in order to register as many details as possible. One interview was conducted with an interpreter, who translated from Finnish into Dari at the woman's home. Thirteen interviews were conducted face-to-face (three at the women's work place, and ten at the researcher's office), and two interviews took place via Skype also from the researcher's office. The thematic topics mainly concentrated on applying for work, being on the job and advancing, and being promoted at work.

The average duration of an interview was about 50 minutes. The interviews were audiotaped by permission of the interviewees, and were later transcribed.

The participants were guaranteed confidentiality and anonymity. They were also informed about their right to withdraw at any time without consequences. Information on publication of this study in articles and presentations at academic conferences was included in a letter of informed consent, which the participants read, agreed and signed. Besides this letter, the participants also received their respective interview transcripts by e-mail, and they could revise any parts of the transcript if they found it necessary.

Data Analysis

We used basic content transcription, which means that the participants' speech was transcribed as we heard it from the audio recordings, including, for instance, raised voice and laughter. As is usual for qualitative researchers, we used minimal notations (Lindlof & Taylor, 2002) to signify any thinking pauses, overlaps, and laughter, for instance. We considered it important to mark increases in loudness, laughter, overlaps, and pauses (see Cools, 2011). In the transcripts, occasional errors that the participants made were left out, because the language of the interview was not always the interviewees' native tongue. While presenting excerpts from the interviews in the findings section below, the focus was on the content of the interviewees' narration, not on their grammar or language skills. Especially in intercultural interviewing, language competence is often considered part of being knowledgeable, and unfortunately, poor language skills

may sometimes be equated with low capability (Marschan-Piekkari & Reis, 2004; Yoshihara, 2001). Omission of certain specific details from these excerpts was also regarded as ethical and justifiable in order to protect the participants' anonymity. Excerpts from interviews carried out in Finnish or in German, appearing in English in the text, are translated by the researchers.

The data were analysed by means of inductive content analysis. The data analysis process included data reduction and manual coding, which took place partly during the reading and transcription phase. We looked for similarities, differences, patterns, and structures that would constitute larger themes, which were then ordered and re-organised into categories – with the ideas of language and communication, social interaction, and workplace contexts in mind. The established categories were then checked, accepted, rejected or modified, providing eventually an appropriate basis for conclusions. As is often the case in qualitative research, some topics may include elements belonging to more than one category or theme. Such occurrences were not always referred to in this study from every point of view, but perhaps only for a few of the key aspects included.

We identified the following main themes: awareness, interaction at work, language-descriptive proficiency, language-undesirable features, learning experience, need of support, offer on Finnish courses, positive features, and strategies used. The following frequency table shows the themes and their occurrences across the fifteen interviews (Table 2).

Table 2.
Frequency table of identified themes

Themes	Number of utterances *Interviewees (N=15)*
Awareness	9
Interaction at work	37
Language-descriptive proficiency	25
Language-undesirable features	31
Learning experience	7
Need of support	7
Offer on Finnish courses	7
Positive features	13
Strategies used	5
Total	141

On occasion, a comment with a particular significance could be used in more than one context. Several factual checks were carried out to establish the accuracy of the findings through submitting (a) the transcripts and themes to the participants for revision (see Creswell, 2009), and (b) the final draft to researcher colleagues for a tentative peer review to establish the validity/credibility of the content.

4. RESULTS

THE INTERVIEWEES

The educated immigrant women had a range of educational and professional experiences in their home country and in Finland. Table 3 below shows more detailed information about the interviewees' pathways and their situation at the time of interviewing. Of the fifteen interviewees, seven held a Bachelor's degree, three an equivalent thereof, and five a Master's degree obtained in their respective home countries before arrival in Finland. Six of these women were enrolled in additional education in Finland. One person had accomplished a second Bachelor's degree in Finland (W7), and three persons had accomplished a Master's degree in Finland (W6, W8, and W10). Four of them were further pursuing a doctoral degree in Finland (W1, W8, W10, and W11). One interviewee was following an additional vocational training programme (W15), and another one (W13), whose nursing degree (although having 20 years of nursing experience at a surgery ward) was not recognised in Finland, needed to accomplish additional two years of training, which then provided her with the status of assistant nurse.

Considering their work experience all but two women had work experience in their original home country. One woman (W5) had voluntarily declined work as she needed the time to prepare for the move to Finland. Another woman (W11) was a student before coming to Finland. The other twelve women had good jobs in their original home country, which matched their qualifications, except one woman (W14) who had been travelling abroad doing several odd jobs.

The women's work experience in Finland varied in terms of duration and permanency. Most of the women (7) had short-

380

term and/or non-permanent jobs, one woman solely pursued her doctoral studies (W8), while another one combined her doctoral studies with a part-time job (W10). One woman was entrepreneur (W14), and two women were unemployed (W7 and W15). One interviewee, pursuing her doctoral studies, perceived herself as unemployed (W1). Two women had a permanent job (W12 and W13).

Table 3.
Highly educated immigrant women's education and work experience acquired before and after coming to Finland

Highly educated immigrant women's education and work experience acquired previously and after coming to Finland					
	Education acquired		**Work experience acquired**		
	previously	**in Finland**	**previously**	**in Finland**	**Currently**
W1	MA Humanities incl. 2 yrs. pedagogical training	Additional 2 yrs. pedagogical training	1 ½ yrs. Language teacher	25 yrs Teaching experience	unemployed (=perception) & Doctoral candidate
W2	University degree at Faculty of Literature	/	University teacher	Teaches native tongue for children Accepted but downgraded	Teacher assistant at elementary school
W3	MA Humanities	/	Language teacher	Language teacher	Language teacher

W4	BSc Commerce	/	Senior clerk in judiciary	Many different jobs with immigrants	Host, office management, project developer
W5	BSc Computer, mathematics, physics	MA Humanities ongoing	unemployed (by desire)	Teaching jobs, 2 full-time and many short-term	Teaching part-time & student
W6	BA Social work	MA Humanities	Social worker	Teaching jobs, short term	Teaching jobs short-term & entrepreneur
W7	Assoc. of Science	BA Business	Office assistant	/	Unemployed
W8	MA Humanities	MA Humanities & aims for PhD	Language teacher	Language teacher, office job: translator and assistant	Doctoral candidate
W9	BA Arts	/	Technical writer, business analyst, office manager, actor, writer	Language teacher	Language teacher, part-time

W10	BA Marketing & PR	MA Humanities & aims for PhD	Communication Management, supervised full time staff	Free-lance jobs and a part- time job	Editor job part-time & Doctoral candidate
W11	BA Biology	MSc Environmental Sciences & aims for PhD	/ Student	Several short term jobs	Research associate & Doctoral candidate
W12	BA Economy	/	Chief accountant (permanent)	Several short term jobs	Financial manager (permanent)
W13	Nursing Degree	Not recognised > additional 2 yrs. retraining to achieve assistant nurse certificate	Surgery nurse in cancer clinic for 20 years	Assistant nurse after the retraining	Assistant nurse
W14	MA Arts	/	Different odd jobs farmer's market, arts & crafts activities provider	Several jobs related to fine arts	Entrepreneur, artist, curator and gallery owner

W15	MA Humanities incl. 2 yrs. pedagogical training	Vocational training	Permanent employment at the university administration	Office job for 3 yrs. as translator and assistant	Unemployed – following vocational training

During the interviews the immigrant women touched on two large areas where language plays an important role:(1) the individual/personal level in terms of how they themselves evaluate their acquired Finnish language skills, and how they perceive the learning experience, and (2) the interactional level where spoken language is instrumental in social interaction with other people in general, and particularly with colleagues at the workplace.

SELF-EVALUATION OF FINNISH LANGUAGE SKILLS
Positive features

On a personal level the interviewees evaluated their acquired Finnish language skills in terms of proficiency. They were asked to evaluate their Finnish proficiency in the domains of understanding, speaking, reading, and writing on a five-step scale (where 1 is very poor, and 5 is very good).

Table 4.
Distribution of interviewees' own ratings of their Finnish language skills

Scale / Domain	Very poor 1	Poor 2	Satis-factory 3	Good 4	Very good 5
Under-standing	1	1	2	7	4
Speaking	-	2	5	6	2
Reading	-	1	5	5	4
Writing	1	4	7	2	1
Total (f)	**2**	**8**	**19**	**20**	**11**

Table 4 shows that the majority of the interviewees rated their skills between 3 and 5 for understanding, speaking, reading, and writing. For understanding Finnish, most of them considered their skills good (7) or very good (4). For speaking, five interviewees estimated their skills as satisfactory, while six chose the rating of good. A third of the interviewees evaluated their reading skills in the Finnish language as satisfactory and another third as good. In the domain of writing, seven of the interviewees evaluated their writing skills as satisfactory, while five respondents placed themselves at the lower end on this scale.

Descriptive proficiency was verbalised with instances of certainty and uncertainty, e.g."I can communicate" versus "I could've done it but I know I couldn't speak fluently". The interviewees perceived proficiency being related to "getting or

not getting a job". They also perceived proficiency being related to status, which was seen as a positive feature. In addition, their perception of the Finnish language being non-hierarchical made them feel comfortable, which enabled them in their pursuits to learn the language. Moreover, their proficiency is also related to job attribution. For instance, a North Eurasian woman came to Finland, having 20 years of nursing experience in her country of origin, but because her qualifications were not recognised, she had to complete a two-year training to obtain an assistant nursing degree. She told the following:

> Sometimes one notices that no one believes, that when one's Finnish skills are a bit weak or not on the same level as that of the regular Finns, and that people don't believe that I can work well. Therefore I think there is some kind of dependence on the Finnish language skills, but I can do so much more with my hands. (W13)

The interviewees voiced their managing and dealing with the Finnish language in an abundance of emotional expressions, and they also brought out their concerns for the need for support. Only a handful of issues were linked to positive emotional perceptions such as "being brave" and "being a resource" (as a native speaker of English in a Finnish-speaking environment).

SITUATIONAL EVALUATION
- It's a handicap
- It's difficult
- It's hard to develop (the language)
- It hinders my promotion
- It's tough
- It is weighing on me

SELF-EVALUATION
- I'm uncertain
- I'm almost hiding from people
- I can't be an intelligent social person
- I don't fit in
- I gave up
- I'm frustrated
- I have to give up a part of myself
- I worry so much

SELF-IMAGE
- I feel limited
- I feel so stupid and stressed
- I feel pshysically and psychologically drained
- I feel pressured
- I have this feeling of resignation
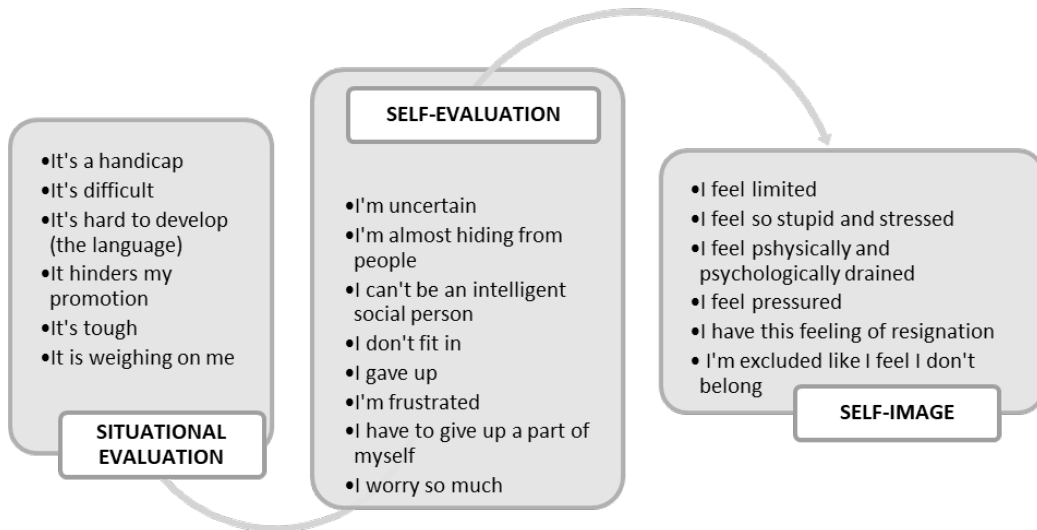- I'm excluded like I feel I don't belong

Figure 1. Undesirable emotional perceptions about dealing with the Finnish language

A large majority of the descriptions, however, were associated with undesirable emotional perceptions about dealing with the Finnish language, as evidenced in the following citations in figure 1.

These perceptions could be divided in three groups. The first group situational evaluation contains expressions about how the interviewees evaluate the actual situation, i.e. the difficulties with the Finnish language in particular, or the "not mastering Finnish as one wish one would", e.g. "it hinders my promotion". The second group of self-evaluations contains the interviewees' utterances deriving from situational evaluation. Here we saw how issues of situational evaluation affect self-evaluation, e.g. "it's tough, it's weighing on me" can result in "I'm passive, I'm

unable to participate". Further, the third grouping self-image reflects the affective component of the interviewees' individual language learning experiences associated with their capabilities regarding the Finnish language, e.g. feeling limited, resigned, stupid, the social burden of not succeeding, e.g. pressure, and physical and psychological drainage, and the feeling of social separation, e.g. exclusion, and not belonging.

In addition, the interviewees brought up exhaustion after work, and feelings of incapacity and powerlessness that had accompanied them during the day. In view of this, they highlighted the need for support from their closest family members, including husbands, older children, and even in-laws, to help them with "the work after work" (for instance W1, W3, W4). This could cover dealing with miscellaneous written material, such as papers, e-mails, documents handed out at meetings during the day, which needed to be translated for them to be understood, or paper work involving writing something in Finnish. Because the women did not have the time to go through all of this at work, they had to sort out these things in the evenings at home, with the help of their family members. Contrary to what one might think, it is not the people at work but one's own family members (husband and children) who are most critical to the women's erroneous use of the Finnish language, as some of the interviewees reported (W1, W4).

The learning experience

Besides evaluating their own Finnish language skills, the interviewees also evaluated the Finnish courses offered and also described their learning in terms of evolving strategic insight. In addition, they gave evidence of a certain awareness, i.e. alert-

ness to recognise power issues around them.

Their experiences of the provision and content of the Finnish courses were rather disheartening and overwhelming. For instance, they found the Finnish courses to be of low quality; they reported there was a mixed bag of educated and uneducated people in the courses, and that the courses were aimed only at a certain kind of learners. The most often mentioned weakness was related to the discontinuity between the courses, e.g. "too long breaks, sometimes waiting for three to six months for the next course to take place" (W4, W5, W14, W15).

The participants gave account of their learning in terms of evolving strategic insight which pointed to a particular understanding, such as the knowledge of how to avoid mistakes, and the actual instances where to acquire continuing education (W2). Also retrospective insight such as "understanding now what went wrong in the past" (W1) and the advantage and necessity of long-term planning, e.g. "needing more time to prepare for teaching as the Finnish language is a high threshold" (W11).

In addition, the interviewees made clear their growing awareness of power issues. They indicated the power topic when referring to "doing ones job well" (W2). They also reported noticing power in hierarchical relations or the missing thereof, as the following interviewee explains:

> *That was a bit shocking to me that was something that I had to comprehend, uhm because I'm used to uhm if there's a boss, he is my boss, or she is my boss, and I expect to receive orders and somebody to tell me what to do because he's my boss, in Latin cultures you know we have a very specified hierarchy [...] and you know*

everybody knows what to do and there is the supervision of somebody else and he is guiding and managing the whole thing, then I come to Finland, and I feel like I'm once again like a dog without a leash, they threw me alone and they said ok you start on Monday these are the courses that you're teaching, good luck and welcome [...] (W3)

A power imbalance in language being used was noticed when Finnish and non-Finnish people were together in a meeting room (W8). Interviewees also referred to receive power from their mother tongue (W10 and W14) and they also mentioned about loss of power, which for some could indicate the creation of uncertainty (W6), and for others it could imply a certain incompetence, e.g. "never being able to express your inner most self in writing" (W15).

IMMIGRANT WOMEN'S EXPERIENCES ON SOCIAL INTERACTION AT THE WORKPLACE

Next we will look at how the interviewees perceived their social interaction at the workplace. On the basis of the highly educated immigrant women's accounts, it is evident that at work, whether in the private or in the public sector, there is always a linguistic division arising from the characteristics of the speakers and listeners, of those with whom one feels comfortable or not. In any case, language does make a difference. As was described by Marschan-Piekkari and colleagues (1999), language clusters are language-based communication patterns that tend to emerge around multilingual staff members in an organisation. Most of the interviewees in our study described similar kinds of group-

ings, and even if they commonly relied on national language as the principal criterion for group identification, their observations reveal a classification based on linguistic similarities and differences. The interviewees had had their share of struggling with the Finnish language at the workplace. They mentioned two main occasions of social interaction taking place: during meetings, where most often instances of power imbalance of language were observed, and the interaction between colleagues.

Regular use of Finnish for informal interaction further increases its symbolic power as the dominant language in the community, and deepens the gap between those people who have access to this language, and those who do not. The interviewees mentioned that several attempts had been made in their respective work places to improve the situation for instance by ensuring that the meetings would be held in English. This proved to be problematic, however:

> *Every month we have this monthly coffee meeting and they always say like if you come we'll go to English, well I tried twice and both times they said it in Finnish [...] and I purposely rescheduled my schedule, I sat in there and can this be in English? Sure, and then they got on there, all the guests started speaking in Finnish [...] and so I was very disappointed, and this happens on a regular basis. (W10)*

The following observation underscores the point that the use of Finnish in meetings makes it hard for some non-Finnish speakers to follow the discussions and participate

> *I have noticed situations in meetings where there are persons*

*who do not speak Finnish and yet you know we have agreed to
speak English but that some people just stubbornly keep talking
in Finnish and I find it rude, so I have seen those and I have wit-
nessed some tense kind of exchange in there. (W8)*

In spite of the organisation's official claim to be international
(and therefore also multilingual), the immigrant women found
that their integration into the organisation depends on their will-
ingness to learn Finnish. An interviewee (W3) recalled that no
allowances were initially made for non-natives, and the Finns in
her unit expected colleagues wanting to engage in social events
to learn Finnish; those who did not appear to make the effort
might be categorised as unwilling to cooperate or to integrate.

However, at times things actually seemed to work out well
considering the language situation, e.g. meetings did take place
in English, sometimes in Finnish, yet, there always are some
people who gain and some who lose as is illustrated in the next
excerpt:

*I notice that when they hold the whole meeting in English I get
to participate more and I know what's going on but I could see
that there were certain people in the group that were participat-
ing a lot less than they normally do so, there's a trade-off there
[...] sometimes I go to a meeting which was in Finnish [...] if
they need to tell me something they would switch to English for a
moment if they think I need it, but the meeting would be mostly
in Finnish and when I discussed some of the contents of the meet-
ings with the colleagues [...] what I understood and what was
actually being said or what was intended, seemed to have been
very different [...] (W5)*

Language can be a powerful force generating a sense of exclusion from information processes, formal or informal for those without the appropriate language skills present in the particular language cluster. From the non-native speakers' point of view, language clustering is something associated with their out-group rather than their in-group. The following example illustrates how hard it can be to enter into a conversation with the locals and being left out:

> *Outside my unit, there's a little more nervousness in engaging me, and I could sit at lunchtime for example and I won't speak Finnish and nobody thinks that they're excluding me, they forget that I don't speak Finnish uhm, so that that is a real issue [...] I hate being considered second class citizen only because I can't manage. (W10)*

The interviewees' accounts reveal that power dynamics played an important role in workplace communication situations, like in meetings, and that lacking proficiency in the dominant language can lead to a language-based marginalisation of non-native speakers in their work environment. Marginalisation, in turn, obviously creates a sense of isolation and social exclusion. The interviewees mentioned instances of dominance and power imbalance several times (W1, W2, W3, W8, and W10). Even the women who evaluated their Finnish language skills as good did refer to power imbalance and to involuntary passive positioning that made it hard for them to take an active role in conversations held in Finnish, and therefore impeded their participation in general (W8, W12).

At the same time, when the main language cluster is the dominant language and primarily oriented towards the members of

that speech community, which not all people at the workplace understand, the information transfer for those who do not belong to that speech community may automatically weaken and/or slow down. This is called thin communication, i.e. when using a second or foreign language, people find they do not achieve the same level of communication or information flow, which has implications for their ability to participate and benefit from peer-based networks and knowledge sharing, as Tange & Lauring (2009, 227) put it, and as illustrated in the following words of an interviewee:

> *One has the feeling one got it but then in the end one didn't understand it after all, and that's how it is, for instance on Friday, last Friday, I understood there was a meeting but I didn't get for instance that it could be a forum for me, uhm where I could present something myself too, it just passed me by. (W1)*

While exclusion or a sense of exclusion at the workplace was mainly experienced by the interviewees when the dominant language was being used, a similar sentiment could be observed when English was the language to receive international guests. An account of an interviewee tells about how the boss introduced the staff to international visitors. The organisation consisted of Finnish and non-Finnish employees. The work place's language is normally Finnish, but is switched to English when international visitors call on. The interviewee underlines how she experienced the boss's introduction of her and the multicultural team to the visitors to be merely a decorum of formal inclusion, whereas usually – when the visitors are not present – one is in a way informally excluded:

We had a meeting held for an international group of visitors; it was held in English… our boss was telling them about our organisation, our workplace and then s/he also said we are a very multicultural work team and that we have employees from a few different countries and that some of them are in this room, and "here is a person from country n". And then I thought like a real token, you know, like that I was there and I was in the meeting just because I'm from country x, that kind of shook me because it is not noticed in any other way, it's noticed on a linguistic level that I'm not a native Finnish speaker, but nothing else is noticed, that I'm an immigrant, that I have maybe a different story to tell, that I have gone through different processes, maybe experiences, and so that was kind of "oh I want to leave" [laughs] and like a real token, just "ugh" [sound of disgust]. (W8)

Formal inclusion is represented here by the following phrases of the boss: "we are a very multicultural work team", "we have employees from a few different countries", and "some of them are in this room". And then the speech act continues by actually indicating to W8 as a showcase person. At that moment the woman feels like a token or a piece on display, and assumes she is there only like some object for an exhibition, coming from country n, which she experiences as an act of unexpected formal inclusion. The informal exclusion is constituted – apart from the language – by usually ignoring her as a person with a certain identity, a particular story and various experiences. The idea of feeling like a token evokes perceptions of emptiness, worthlessness, isolation, and implicit exclusion.

The interviewees' interaction with their colleagues – outside the meetings – took place in Finnish, English or in the inter-

viewees' mother tongue, if there happened to be colleagues of that culture. All but two women were quite pleased with their colleagues. Nine women were satisfied with the colleagues at work, e.g. "it's a good gang" (W13), "people want things to happen here and they're willing to" (W14). Four interviewees reported being very pleased with the colleagues and work environment, e.g." there are other mother tongue teachers with whom I get on very well and with whom I can talk about life and school matters (W2), excellent people (W4), very good work atmosphere" (W11).

Coping Strategies

What then are the strategies the educated immigrant women brought up as regards managing at the workplace? Being embedded in a Finnish surrounding, obviously, Finnish is the dominant language. Yet, besides the difficulties they encountered at times, the interviewees also saw the need to learn Finnish, respected the achievement of learning it, and had put considerable energy and thought in their efforts to learn the Finnish language and habits. "Then knowing Finnish gives you freedom and independence", one interviewee said and continued that "you understand what's happening here, life is so much poorer if you don't know the language" (W11). Besides advancing in the Finnish language the interviewees also mentioned the importance of adaptation to a new culture being a double-edged issue; it has to come both ways and people have to learn each other's cultures and communication styles.

The interviewees had consciously worked out some strategies to cope with the interaction at work. The first strategy takes benefit from the different parts the job entails, and involves making

full use of the nicest aspects so that one can actually concentrate on what one finds enjoyable and does best. In other words, job division can bring some help, as one interviewee described it:

> *[...] it's so that it's such a relief to have because I also teach, and teaching is so different and I just I feel like I have a completely different work place personality in those situations because there I feel really comfortable and it's something I've been doing for years and it's very different. (W8)*

The second strategy concerns behaviour in meetings or during talks. People remain quiet and say little unless it is important. They do it to hide uncertainty or to cover up they make mistakes. One interviewee said that she tends to analyse at night what and how she said it and always realises that there was a mistake, and that she would only speak up in meetings at crucial points: "Because I can't speak well, and because I have to inflect numbers, which is important and difficult" (W12).

The third strategy is based on selecting one's company so that one chooses such communication partners who meet certain communicative criteria. For instance, one interviewee, being a native speaker of English, put it as follows: "I end up going to the ones I can actually communicate with, for example to those who can speak English or with the ones I can understand their Finnish" (W5). Having said this, she also pinpointed the downside of this strategy: it limited the range of her communication partners as she could not talk with everybody.

The fourth strategy deals with a conscious power shift in terms of switching the language. When one's Finnish skills are considered weak or insufficient, one may gain power by resort-

ing to another language that one knows better and which is still suitable for mutual communication. Below is an example by one woman: "I have power in my mother tongue, I'm powerless in Finnish, so when I need power, when I need to be taken seriously and not been put down too easily, I use English" (W14).

In sum, the interviewees' strategic insights for speaking Finnish include the following aspects: (1) the ground rule that Finnish proficiency allows for freedom, (2) taking into account more preparation time, (3) learning from ones mistakes, (4) not taking too much pressure, and (5) learning to draw power from ones mother tongue. At the same time, these non-native speakers of Finnish were supported by Finnish people's kindness and non-judgmental attitude toward their not so perfect Finnish.

5. SUMMARY AND DISCUSSION

The education and career trajectories of the highly educated immigrant women in this study showed quite divergent pathways. More than half of the women did re-train or did additional studies in Finland. At the time of interviewing about half of the interviewees had a different job than the one they had shortly after they arrived in Finland. Some of the interviewees' educational trajectories are still continuing, e.g. for those pursuing their doctoral studies.

Although the women's accounts concerning language learning and interaction were, at times, not that favourable, in the end all experiences of cross-cultural adaptation are both complex and giving ground for growth. Kim (2001, 21) explains that "despite, or rather because of the difficulties crossing cultures entails, people do and must change some of their old ways so as

to carry out their daily activities and achieve improved quality of life in the new environment".

On average, the interviewed fifteen highly educated immigrant women estimated the level of their own Finnish skills as ranging mostly from satisfactory to good. Of the different domains of proficiency, understanding, reading and speaking were considered the strongest. The interviewees also related their Finnish skills to employment prospects i.e. whether or not they could get a job with their current Finnish skills. Uncertainty and emotionally challenging perceptions characterised their 'dealings' with the Finnish language, which more often than not point to social exclusion and to incapability. The women's actual situational linguistic evaluation influenced their self-evaluation, which in turn impacted the interviewees' self-image. Also a sense of powerlessness and need for support were issues calling for attention. With reference to their learning experience the interviewees also commented that on the one hand they were rather discouraged with the Finnish courses offered, while on the other they gave evidence of their evolving strategic insight and alertness to recognise the power issues around them.

As regards interaction at the workplace as described by the interviewees, it seemed to take place mostly around meetings at work, where language clustering occurred around Finnish as the dominant language, and with the colleagues with whom most had good relationships. The language clustering created a divide amongst native and non-native speakers of Finnish, as not all of them were necessarily able to understand everything said in a foreign language. Such clustering could generate an imbalance in the power relationships, and might also impede information transfer within the organisation, e.g. resulting in thin commu-

nication. Non-native speakers of the dominant language were left with feelings of insufficiency and exclusion.

Yet, despite the rather grim experiences, the interviewees also recalled the positive sides that learning Finnish had brought them, as well as the strategies they had consciously adopted so as to deal with challenging situations. These strategies varied from taking benefit from the possibilities the job provided and making the best thereof, choosing the strategically best moment in meetings to talk so as to bring ones best sides forward, selecting one's interaction partners in order to ensure successful communication, and ultimately, to switching the language to gain power when needed in the particular setting.

Based on our data, many interactions between the interviewees and their colleagues occurred during work meetings. However, it is exactly during these meetings that they perceived and became more aware of tensions regarding power and language, in such terms as certainty/uncertainty, in-group/out-group, inclusion/exclusion, who is privileged and who is disadvantaged. These tensions also reflected the paradox between language policy making on the one hand, and the reality of immigrants' multilingual qualities on the other (Tange & Lauring, 2009). Although in many work environments people more or less sincerely try to promote inclusion in their work strategy plans, yet existing language policies may often be limited to superficial aspects only, e.g. the number of foreign employees, as was exemplified with the token excerpt. According to Washington (2012, 45), inclusion should be about "engaging the notion that all diverse groups are not treated in the same way. It should engage the dynamics of power, privilege and systemic oppression. It is about the spirit of all of us mattering that what we say we value".

Future research could look more into the concepts of power and identity as the processes of identity construction and of power are essentially intertwined, wherein language plays an instrumental role. Further studies could also extend the data collection beyond the subjects (highly educated immigrant women) themselves, i.e. using peer evaluation. Kealey (1990), for example, has shown this to be an effective research strategy. It could provide more data about the subject of interest from various viewpoints.

REFERENCES

Allman, D. (2013). The sociology of social inclusion. *Sage Open 3* (1), 1–17. Retrieved from: http://sgo.sagepub.com/content/3/1/2158244012471957

Anderson, B. (1990*). Imagined communities: Reflections on the origin and spread of nationalism*. Verso: London.

Bakhtin, M. M. (1981). *The dialogic imagination: Four essays by M. M. Bakhtin*. In M. Holquist (ed.), C. Emerson & M. Holquist, Transl. Austin: University of Texas Press.

Baxter, L.A. (2004). Distinguished scholar article: Relationships as dialogues. *Personal Relationships 11*, 1–22.

Baxter, L.A. & Montgomery, B. M. (1996). *Relating: dialogues and dialectics*. New York: The Guilford Press.

Beacco, J-C. (2012). *Linguistic integration of adult migrants* (LIAM). Strasbourgh: Council of Europe.

Bennett, M.J. (2004). Becoming interculturally competent. In J.S. Wurzel (ed.), *Toward multiculturalism: A reader in multicultural education*. Newton, MA: Intercultural Resource Corporation.

Berry, J. (1997). Lead article. Immigration, Acculturation and Adaptation. *Applied Psychology: An International Review 46*(1), 5–68.

Biffl, G. (2008). *Migrant women and youth: The challenge of labour market integration. Thematic review seminar of the European Employment Strategy*. Retrieved from http://www.mutual-learning-employment.net/uploads/ModuleXtender/Trscontent/32/biffl_TRSG_en.pdf

Blommaert, J., Collins, J., & Slembrouck, S. (2005). Spaces of multilingualism. *Language & Communication 25*(3), 197–216.

Bourdieu, P. (1991). *Language and Symbolic Power*. Cambridge: Polity Press.

Cervatiuc, A. (2009). Identity, good language learning, and adult immigrants in Canada. *Journal of Language, Identity and Education 8*, 254–271.

Chiswick, B.R., Lee, Y.L. & Miller, P.W.(2005). *Immigrant earning: A longitudinal analysis.*(IZA Working Paper No. 1750). Bonn: Institute for the Study of Labour.

Cools, C. (2011). *Relational dialectics in intercultural couples' relationships.* (Jyväskylä Studies in Humanities 171). Jyvaskylä: University of Jyväskylä.

Creswell, J. (2009). *Research Design: Qualitative, quantitative, and mixed methods approaches.* Los Angeles,CA: Sage.

Dufva, H. 1998. From 'psycholinguistics' to a dialogical psychology of language: Aspects of the inner discourse(s). In M. Lähteenmäki & H. Dufva (eds.), *Dialogues on Bakhtin: Interdisciplinary readings* (pp. 87–104). Jyväskylä: University of Jyväskylä,

ENAR, European Network Against Racism. (2010). Gender and migration. Retrieved from http://www.enar-eu.org

Frey, L.R., Botan, C.H. & Kreps, G.L. (2000). *Investigating communication. An introduction to research methods.* Boston: Allyn and Bacon.

Gerritsen, D. (2010). *Gender differences in the labour market perspectives of young migrants in the Netherlands.* Retrieved from http://www.espanet2010.net/ en/257.file/p_gerritsen-zenderen_gender differences labourperspectives.pdf

Hirsjärvi, S. & Hurme, H. (2000). *Tutkimushaastattelu. Teemahaastattelun teoria ja käytäntö [Research interview. Theory and practice of thematic interview].* Helsinki:Yliopistopaino.

Jaakkola, M. (2005). Suomalaisten suhtautuminen maahanmuuttajiin vuosina 1987 – 2003. Työpoliittinen tutkimus 286. Työministeriö-Opetusministeriö. *[The attitudes of Finns towards immigrants in 1987–2003.* (Labor policy studies 286). Helsinki: Finnish Ministry of Labour.

Joronen, T. (2007). Työmarkkinoiden monenlaiset maahanmuuttajanaiset. In T. Martikainen, & M. Tiilikainen (eds.), Maahanmuuttajanaiset: Kotoutuminen, perhe ja työ [*Immigrant women: Integration, family and work].* (Publication Series of the Population Research Department D 46/2007). Helsinki: Väestöliitto.

Kealey, Daniel J. 1990. *Cross-Cultural Effectiveness : A Study of Canadian Technical Advisors Overseas.* Hull, Quebec: Canadian International Development Agency.

Kim, Y. Y. (2001). *Becoming intercultural: An integrative theory of communication and cross-cultural adaptation.* Thousand Oaks, CA: Sage.

Kokkonen. L. 2010. *Pakolaisten vuorovaikutussuhteet. Keski-Suomeen muuttaneiden pakolaisten kokemuksia vuorovaikutussuhteistaan ja kiinnittymisestään uuteen sosiaaliseen ympäristöön [Interpersonal relationships of refugees in Central Finland: Perceptions of relationship development and attachment to a new social environment].* (Jyväskylä studies in Humanities, 143). Jyväskylä: University of Jyväskylä.

Lantolf, J.P. (2000). *Sociocultural theory and second language learning*. Oxford: Oxford University.

Lasonen, J. (2009). Tavoitteena tunnustuksen antamisen tasavertaisuus. In J. Lasonen & M. Halonen (eds.), *Kulttuurienvälinen osaaminen koulutuksessa ja työelämässä [Equality as a goal of granting recognition]* (pp.145–153). Jyväskylä: FERA.

Lasonen, J., Cools, C. & Teräs, M. (2011*). Migrant women's access to education and work: A Finnish case reflected with European research literature*. European Conference on Education Research, EERA's Annual Conference. Germany, Berlin 4–8 September 2011.

Lindlof, T.R. & Taylor, B.C. (2002). *Qualitative communication research methods*. 2nd Edition. Thousand Oaks: Sage.

Malterud, K. (2001). Qualitative research: Standards, challenges, and guidelines. Qualitative research series. *Lancet 358*(9280), 483–488.

Marschan-Piekkari, R., Welch, D.E. & Welch, L.S. (1999), In the shadow: The impact of language on structure, power and communication in the multinational. *International Business Review 8*, 421–440.

Marschan-Piekkari, R. & Reis, C. (2004). Language and languages in cross-cultural interviewing. In R. Marschan-Piekkari & C. Welch (eds.), *Handbook of qualitative research methods for international business* (pp. 224–243). Cheltenham, UK: Edward Elgar Publishing.

Martikainen, T. & Tiilikainen, M. (eds.) (2007). *Maahanmuuttajanaiset: Kotoutuminen,perhe ja työ [Immigrant women: Integration, family and work]*. (Väestöntutkimuslaitoksen julkaisusarja D 46/2007). Helsinki: Väestöliitto.

Maxwell, J. A. (1996). *Qualitative research design: An interactive approach*. Thousand Oaks: Sage.

Myers, M. (2000). Qualitative research and the generalizability question: Standing firm with Proteus. *The Qualitative Report 4*(3/4). Retrieved from http://www.nova.edu/ssss/QR/QR4-1/myers.html

OECD (Organisation for Economic Co-operation and Development). (2015). *Indicators of immigrant integration.* Paris: OECD Publishing.

Paton, D. (2012). Towards a theoretical underpinning of the book arts: Applying Bakhtin's dialogism and heteroglossia to selected examples of the artist's book. *Literator,33* (1). Retrieved from http://www.literator.org.za/index.php/literator/article/view/353/420

Patton, M.Q. 2002. *Qualitative research and evaluation methods*. Thousand Oaks, CA: Sage. Pavlenko, A. & Lantolf, J.P. (2000). Second language learning as participation and (re)construction of selves. In J.P. Lantolf, (ed.), *Sociocultural theory and second language learning* (pp. 162–174). Oxford: Oxford University Press.

Pietilä, I. (2010). Vieraskielisten haastattelujen analyysi ja raportointi. Teoksessa Ruusuvuori, J., Nikander, P. & M. Hyvärinen (eds.), *Haastattelun analyysi [Interview analyses]* (pp. 441–423). Tampere: Vastapaino.

Pöyhönen, S., Tarnanen, M., Kyllönen, T., Vehviläinen, E-M & Rynkänen, T. (2009). *Kielikoulutus maahanmuuttajien kotoutumiskoulutuksessa. Tavoitteet, toteutus ja hallinnollinen yhteistyö [Language education in the integration education of immigrants. Goals, implementation and administrative cooperation.* Jyväskylä: Jyväskylän yliopisto.

Rubin, J, Rendall, M.S., Rabinovich, L.,Tsang, F., Janta, B. & Oranje-Nassau, C. (2008). Migrant women in the EU labor force. Cambridge: Rand Europe. Retrieved from http://www.rand.org/pubs/technical_reports/TR591z3.html

Tadmor, C.T., Tetlock, P. E. & Peng, K. (2009). Acculturation strategies and integrative complexity: The cognitive implications of biculturalism. *Journal of Cross-Cultural Psychology 40*(1), 105–139.

Tange, H. & Lauring, J. (2009). Language management and social interaction within the multilingual workplace. *Journal of Communication Management 13*(3), 218–232.

Tanner, A. (2011). *Finland's balancing act: The labor market, humanitarian relief, and immigration integration.* TEM: Migration Information Source. Retrieved from http://www.migrationinformation.org/Profiles/display.cfm?ID=825

Thomas, C.A. (2007). Language policy in multilingual organizations. *Working Papers in Educational Linguistics 22* (1), 81–104. Retrieved from http://www.gse.upenn.edu/sites/gse.upenn.edu.wpel/files/archives/v22/v22n1_Thomas.pdf

Tiilikainen, M. (2008). *Menestyvät maahanmuuttajanaiset [Successful immigrant women].* Helsinki: The Family Federal, Population Research Institute. Työ-ja elinkeinoministeriö (TEM) (2008). *Integrationservices.* Retrieved from https://www.tem.fi/en/work/integration_of_immigrants/integration_services

Washington, J. (2012). Are we there yet? A Dialogue on inclusion: Defining what it is and how it can be achieved. *The Chronicle of Higher Education & Diverse: Issues in Higher Education 3*(12), 44–49.

Yoshihara, H. (2001). Global operations managed by Japanese and in Japanese. In J.H. Taggart, M. Berry & M. Mc Dermott (eds.), *Multinationals in a new era* (pp. 153–177). Chippenham: Palgrave.

Managing contexts, mastering complexity – School leadership in vocational education and training

Niclas Rönnström[*] & Pia Skott

Abstract: A newborn interest in and growing recognition of school leadership and school leaders in education is reflected in a converging global policy climate geared to higher performance and better results in schools. School leaders are no longer chiefly seen as administrators; rather, they are expected to be learning oriented school leaders and to play crucial roles in student achievement, teacher performance, school improvement and in effective school reform. This development has prompted debate on the knowledge base of school leadership, but also tensions with regard to the general expectations of and the concrete contexts for school leadership. In this paper, we examine and analyze the narratives of Swedish principals in vocational education and training as they face the challenges and growing expectations of embracing (instructional) leadership for teaching and learning in their work. We discuss the growing global interest in school leadership for teaching and learning, or instructional leadership, and its growing institutionalization, and we define what we mean by organizational complexity as a fundamental trait of schools and an inescapable condition for school leadership. We suggest

* Correspondence: niclas.ronnstrom@edu.su.se

that school leadership in vocational education and training often is subject to organizational hyper-complexity, and that effective school leaders in vocational education and training must be able to manage a variety of intermingling tasks and contexts in their schools. School leadership for teaching and learning in vocational education and training can be seen as the art of embracing, using and mastering organizational complexity.

1. INTRODUCTION

A newborn interest in and growing recognition of school leadership and school leaders in education is reflected in a converging global policy climate geared to higher performance and better results in schools (Rönnström, 2015). School leaders are no longer chiefly seen as administrators or pen pushers; rather, they are expected to play crucial roles in student achievement, teacher performance, school improvement and effective school reform since they are held to be the local agents that can transform ambitious policy into practice (Leithwood and Riel, 2003; Hallinger, 2015; Leithwood et al, 2008). This globally widespread recognition of school leadership and the renewed practice and performance orientation with regard to the expected roles of school leaders has prompted debate on the knowledge base of school leadership; that is, what school leaders should know and be able to do.

Today, there is convergence towards a globally structured agenda with regard to the knowledge base and the expected

work of school leaders. School leaders are increasingly recruited, trained, assessed and educated in relation to standardized norms of school leadership drawn from research focused on the performative link between school leadership and student achievement. However, this development has prompted criticism because increased standardization of school leadership tends to bypass the fact that it depends deeply on organizational complexity and the contexts of different schools. This situation produces tensions between the growing importance of generalized and standardized models of school leadership and actual school leadership practices depending on different educational, legal, material, sociocultural and local contexts. This tension motivates research into school leadership from the perspective of actual school leaders, and in particular, school leadership in vocational education and training because these schools have specific and in many respects challenging contexts.

In this study, we examine and analyze the narratives of Swedish principals in vocational education and training as they face the challenges and growing expectations of embracing (instructional) leadership for teaching and learning in their work. In the first section, we briefly discuss the growing global interest in school leadership for teaching and learning, or instructional leadership, and its growing institutionalization. In the second section, we define what we mean by organizational complexity as a fundamental trait of schools and an inescapable condition for school leadership. In the rest of the paper, we examine and analyze the narratives of Swedish principals when they articulate what they do, know and deal with as they face increasing expectations of leadership for teaching and learning. We suggest that school leadership in vocational education and train-

ing often is subject to organizational hyper-complexity, and that effective school leaders in vocational education and training must be able to manage a variety of intermingling tasks and contexts in their schools. School leadership for teaching and learning in vocational education and training can be seen as the art of embracing, using and mastering organizational complexity. This characterization of school leadership stands in contrast to recent synthesizing research, which sometimes make school leadership look deceptively straightforward and easy in theory when it is not in practice.

2. INSTRUCTIONAL LEADERSHIP: FROM RESEARCH-BASED MODELS TO INSTITUTIONAL REQUIREMENTS

Since the beginning of the 21st century, one overarching question has dominated research on school leadership: What do successful school leaders do and what can we know about it? (Leithwood & Riehl, 2003). In the different approaches aimed at throwing light on that question, another trend can be identified: synthesizing and meta-analytic research using samples of earlier research with the aim of arriving at general knowledge about what successful school leaders do, or what they should do if they want to be successful (Marzano et al, 2005; Robinson et al, 2009, Leithwood and Seashore Louis, 2011, Leithwood et al, 2008;). John Hattie et al (2014) observed how synthesizing or meta-analytic research in education grew from a concern among a few statistically oriented researchers to become a worldwide research industry over the last decade. This exponential development was triggered by growing discontent among policymakers

and school critics. They claimed that researchers in education tended to shy away from producing general knowledge about what works in education, and, unfortunately, such research was deemed unable to inform policymakers and practitioners (Pring, 2015).

In the field of educational leadership and management, the leading focus in recent years has been on the relationships between school leadership and the work of school leaders on the one hand, and student learning or achievement on the other. The synthesizing or meta-analytic research into school leadership has resulted in general knowledge or a knowledge base in terms of descriptions of the strategies or characteristics that successful school leaders adopt. One expression of a globally structured agenda for school leadership is the advancement of instructional management or leadership as *the* global model for school leadership, or, as researcher Philip Hallinger (2015) argues, it has moved on from being one model among others to (more or less) a necessity for school leaders in increasingly performance-oriented schools. Among the global trends in educational leadership and management that have emerged over the past decades, few have been more significant and enduring than the effort to understand the performative link between school leadership and student achievement and outcomes.

Hallinger (2015) argues that recent synthesizing research on the global literature on educational leadership supports the view that instructional leadership has demonstrated the strongest empirically-verified impact on students' learning outcomes (e.g., Bell et al. 2003; Hallinger, 2015; Leithwood et al. 2008; Robinson et al. 2009; Southworth 2003). He concludes that recent findings highlight three main paths for

school leaders aiming at the enhancing of student learning: define mission and goals, design academic structures and processes, and develop people. Robinson et al (2009) concluded in their meta-analysis of research on school leadership that the impact of instructional leadership on student achievement was stronger compared to other models. Moreover, Robinson et al (2009) suggested five dimensions of school leadership that have impact on student learning: establishing goals and expectations; strategic resourcing; planning, coordinating and evaluating teaching; promoting and participating in teacher professional development and learning; and ensuring an orderly and supportive school environment. The OECD (2016) makes similar claims about instructional leadership in terms of its value for improving teaching practices and the learning outcomes of students, and they recommend nations states to improve and encourage the development of instructional leadership practices.

Instructional leadership, as we understand it here, is not a unified theory or a research program focusing on one clearly defined characteristic of school leadership; rather, it is a framework that ties together leadership models and research approaches because of their common ground or family resemblance. Instructional leadership involves a commitment to the performative link between school leaders and the achievement and learning of students, and such links can be direct, indirect or mediated, or, as Robinson et al (2009) put it: the more school leaders focus their attention on the core business of teaching and learning the greater their influence on student outcomes. However, the growing interest in the link between school leadership and student achievement is reflected not only in recent research. It is

also reflected in massive investments in school leadership training programs, continuing professional development courses and the development of leadership standards in many nations (Ingvarsson et al, 2006; Ylimäki, 2013; CEPPE, 2013; Wei, 2017; Young et al, 2017). School leaders all over the world are increasingly recruited, trained, educated and assessed against criteria drawn from models of instructional leadership or synthesizing and meta-analytical research.

We argue that instructional leadership has increasingly become an institutional requirement for school leaders and school leadership, and this is definitely the case in those nations (Australia, Korea, Canada, China, the Netherlands, Great Britain, Japan, Chile, Germany and the USA) that have developed national standards for school leadership (CEPPE, 2013; Wei, 2017). For instance, recent research overviews reflect how standardization of school leadership is geared to aspects essential to instructional leadership, such as setting goals and visions for the school, leading core processes such as teaching and learning, creating organizational conditions for teaching and learning, promoting school cultures of learning and collaboration focusing on teaching and learning, leading and promoting professional development focused on student achievement and learning, and establishing good relations with external stakeholders and the surrounding community (See Ingvarson et al, 2006; CEPPE, 2013; Wei, 2017; see also Young et al, 2017). It is the institutionalization of school leadership for teaching and learning, and how school leaders respond to this growing trend that form the research interest behind this paper.

3. BRINGING ORGANIZATIONAL COMPLEXITY OUT OF THE DARKNESS AND INTO THE LIGHT

In recent research on school leadership, another aspect stands out, apart from the increased performance orientation discussed above. It is widely recognized in the research literature that both schools and the expected work of school leaders are steadily growing more complex. Performance orientation is well covered in research on (instructional) school leadership for teaching and learning, but the complexity of school leadership is in need of further attention (Day et al, 2016). Synthesizing and meta-analytical research aiming at general knowledge about successful intervention or what works in education tends to overlook context dependence and the organizational complexity of schools because it aims at meeting requirements for generalization. In consequence, much of the research aimed at informing policymakers and school leaders bypasses the everyday complexity that no living and breathing school leader can escape. For instance, exactly what are they supposed to know and do when they focus on core processes, promote organizational culture or lead the professional development of teachers in practice?

If school leaders unreflectively try to apply general research findings in concrete practices, they run the risk of falling prey to hazardous myths or confusion rather than embodying practical knowledge. The reason for this risk is quite simple: general descriptions of successful leadership drawn from research on research on school leadership may neglect the complexity of schools and the everyday life of school leadership. We believe that not paying sufficient attention to organizational complexity can make school leadership look deceptively easy and

straightforward in theory, research and policy when it is in fact an intricate, often messy and unpredictable affair in practice. What, then, do we mean by paying attention to organizational complexity in our understanding of school leadership? In our brief characterization of complexity in this section, our starting point is a research overview on complexity (Hawkins and James, 2018) and communication theory (Rönnström, 2011).

In meta-analytical or synthesizing research on research into school leadership aiming at general knowledge about successful school leadership, the production of knowledge often depends on statistical methodologies operating over a selection of research studies. Such approaches seek to produce general knowledge about successful school leadership, but often at the expense of the social reality of school leadership. As a result, school leadership might look like a simple, linear and controllable affair. In contrast, school organizations are complex and characterized by intense and frequent relations and transactions among its participating individuals. The simple observation that much of what goes on in schools depends on human communication is one manifestation of organizational complexity. In fact, schools exist because of human communication, and they can be defined in terms of the complex patterns of meaning and communication that constitute an actual school or school system. The degree of complexity in a particular school varies, depending on the attunement, dissonance or conflicting relations between its complex individuals, and the extent to which its different elements act in concert. However, a school organization can never be in perfect harmony due to its organizational complexity.

Transactions in schools are different in kind (emotional, social, cognitive, physical, communicative, formal, informal)

and they are hard to determine and control. They are often intentional, regularly planned and sometimes deliberate, but on other occasions unintended, reactive or spontaneous. The heterogeneity of transactions among the individuals that make up a school adds to difficulties of interpretation and prediction of results, outcomes and consequences. Complex transactions are difficult (in principle and in practice) to cover by law-like or determinate regularities such as clearly identified and isolated causes and effects. On these grounds, school leaders are wise not to jump to the conclusion that the recent research on successful school leadership can provide simple and reliable tools for successful intervention in teaching and learning practices. The organizational complexity of school means that intended interventions do not always result in intended effects. Minor interventions may result in huge effects, major interventions might go unnoticed and some interventions result in intended effects the following week, year or decade.

Schools are also made up of complex individuals. They are not made up of fixed and controllable individuals that merely interact with one another; rather, they transact and change as a result of their transactions. Typically, communicative transactions among individuals depend on complex intentions and actions, resulting in some intended but also many unintended effects. The deceptively simple functional roles of 'school leader', 'teacher' and 'student' conceal a heterogeneity of individuals, adding to organizational complexity. We agree with Lumby and English (2009) who suggest that individual school leaders should be seen as complex entities or individuals. They argue that too many researchers rely on a deceptively fixed and unified picture of leader identities that clouds

the view of the never-ending character of identity formation among school leaders.

Complex schools also engage in transactional relations with other institutions or organizations and with the surrounding community. This means that the boundaries between schools and their surrounding contexts are blurred. In fact, this complex trait of schools can be seen as a defining feature of schools and education. An imaginary aspect of schools and education adds to organizational complexity and to the complex tasks and goals we assign schools. The tasks and activities in schools depend on wider contexts of human interconnectivity in society that stretch beyond the actual life in schools. Schools are expected to link practices within schools to practices taking place outside schools; that is, they are supposed to link individuals to society, connect the present to the future and secure the continuation of society (nationhood, democracy, working life, etc.) by means of high-quality education for future generations. However, these relationships are imaginary in the sense that they cannot really be experienced in actual schools. They have to be imagined, but in ways that pervade everyday life in schools. This may seem too demanding, but no school system and no individual school can exist without such imaginary relationships (Rönnström, 2015).

It is on these grounds that we argue that we need to pay attention to the organizational complexity of schools. School leaders cannot escape organizational complexity, and this is why it is important to recognize this aspect of school leadership, especially in the light of increased expectations placed on school leaders with regard to their capacity to lead and improve teaching and learning. It is against this background of increased institutionalization of instructional leadership and organizational

complexity as a fundamental condition for school leadership that we now move on to the narratives of school leaders, such as principals, in Sweden.

4. SCHOOL LEADERSHIP IN VOCATIONAL EDUCATION AND TRAINING: A SWEDISH CASE STUDY

In this paper, we examine and analyze the narratives of Swedish principals in vocational education and training as they face the challenges and growing expectations of embracing instructional leadership in their work. The reason is simply to develop an understanding of school leadership from the perspective of specific school leaders with regard to the ways they express what they know, do and deal with when they exercise instructional leadership, or leadership for teaching and learning.

In 2011, the Swedish National Agency for Education launched a continuing professional development course for active and experienced principals already cultured in the National school leadership training program. This course was taught at selected universities, and the curriculum was highly influenced by global and national policy organs stressing the importance of instructional leadership (The Swedish School Inspectorate, The National Agency of Education, the OECD, McKinsey). In short, the course implied a delicate task for the universities selected, that is, to participate in the transformation of Swedish principals from administrative managers into (instructional) school leaders for teaching and learning. For three years (2016–2018), we followed closely one professional development course taught at Stockholm University. We followed the work

and assignments of approximately 100 principals, and we specifically followed 12 principals working in vocational education and training. Each course was one year long and the participating principals were supposed to use the content and the experiences from the course in their daily work as principals.

Data was collected through participating observation related to all the sessions arranged by the selected university, and each course involved four two-day long sessions. We analyzed data, texts and written assignments from the course with a narrative approach: that is, we interpreted the text production of the participating principals as reflective stories about their daily work. We also added two semi-structured interviews and one field study with principals working in initial vocational education and training because of their challenging schools and work environment. We examined and analyzed how the participating principals described and expressed what they did, knew and struggled with, and how they dealt with the complexities in their work. In this paper, we re-construct one narrative of one principal working in initial vocational education and training. In our concluding discussion, we draw on a larger part of our material, but we remain close to the one narrative we reconstruct for the purposes of this paper. However, first we need to highlight some characteristics of the Swedish school system.

The Swedish school system is a unified school system. A compulsory and unified school system for school years 1 – 9 was established in the mid-20th century. The possibility of differentiation into individual and separate career choices was actualized in the upper secondary school after year 9. However, since then a political desire to restrict differentiation and to promote continuation has won success. Reforms in the 1990s created

a unified upper secondary school. In principle, the upper secondary school still counts as a voluntary school form. In practice, it has become a continuation of the unified school system since all children are supposed to take part in it. Consequently, children and young people continue their unified education in upper secondary schools although some of them have failed to pass in the elementary or compulsory school. This, in turn, has meant that the upper secondary school needs to compensate for school failure since the reforms in the 1990s. Swedish students are required to take part in activities such as individual study programs arranged by upper secondary schools although they do not register for a specific program (Skott, 2009).

The Swedish system of school governance rests on a century long duality between the state and the municipalities. Over the years, the primary emphasis on centralization or decentralization has shifted. Today there is a combination of regulations and curriculum at the national level with strong local responsibility at the level of principals and local owners (Holmgren et al, 2012). Moreover, almost all schools in Sweden were previously owned by the municipalities, but since the reforms in the 1990s, the number of independents schools has increased extensively (Skott, 2014). All schools are subject to the same school regulations; they are publicly funded and they are controlled by the state (Skott and Kofod, 2013). Finally, in the narrative below the principal refers to pedagogical leadership, which is the way Swedish principals usually talk about leadership for teaching and learning or instructional leadership. For almost half a century, pedagogical leadership has been a recurrent challenge for Swedish school leaders as something they should embrace, although administrative burdens lead them astray. In this text,

we generally refer to school leadership and school leaders, but in the reconstructed narrative we use the term 'principal' since it is about assistant principal Mary.

5. SCHOOL LEADERSHIP FOR TEACHING AND LEARNING: THE NARRATIVE OF MARY

Mary's school is located in a Stockholm suburb. The school has about 450 students and about 40 teachers. The majority of the teachers are specialized in different subjects connected to vocational profiles, and a minority teach typical school subjects such as Swedish, English and Mathematics. There are a handful of administrative personnel and a student health team composed of six different professions. The leadership team consists of one principal and three assistant principals. Mary is an assistant principal but she is also the owner of the school together with the principal and two members of the staff. Mary's professional role is complex since she is both assistant principal and superintendent.

The school offers the following national programs (and profiles): Building and Construction (Construction work, House building, Painting); Electricity and Energy (Electric technology); Commerce program (Trade and service); Vehicle and transport program (Cars, Transportation, Vehicle spraying, Coachwork); Crafts (Hairdressing, Skin care, Styling); Natural resources program (Horse care, Animal care); Restaurant (Bakery and Patisserie, Kitchen and Serving); Civil programs anchored in the social and behavioural sciences. Some of the programs offer services to the community in the form of boutiques, bakeries, restaurants and other business arrangements.

Mary's school differs from typical normal schools in which teaching takes place in ordinary classrooms. "Classrooms" in Mary's school are often a café, a hairdressing salon, workshops, a beauty salon, garages, construction halls, busses, restaurants, trucks and various facilities appropriate for animals. What, then, can we learn about school leadership in this hyper-complex context for teaching and learning?

5.1 A COMPLEX ARENA OF TASKS AND TRANSACTIONS

In many ways, Mary's narrative is similar to those of many other principals in our study. She describes how she exercises indirect influence on students by promoting the teaching capacity of teachers:

> *As a pedagogical leader, I lead the teachers in their work, so that they in turn get what they need to lead the students. I have the overarching responsibility for the school.*

However, when reading Mary's narrative it soon becomes obvious that one salient feature of vocational schools forms her work. It is not enough to stress the importance of academic achievement. She needs to take seriously prior experiences of school failure among the majority of the students. She describes how she has to deal with distrust and lack of self-confidence among students, and how she has to repair what is broken and lost. Mary highlights the importance of building trust and creating new images of schooling and what a school can be in the eyes of the students. She points out the she and her colleagues interact physically with students every day in order to build up trust and equality:

The school leaders are visible in the school. The students can inter-
act with us in the corridors. It is important to be close to the stu-
dents and show that we are all of equal value, no matter what
role we play in the school.

Compensation for prior school failure is not only about mapping and overcoming knowledge gaps, says Mary. She thinks the teachers also need to instill hope, knowledge and capabilities for a future in working life and in society, and to care for the present and future lives of the students. Expectations of failure are worst in the academic subjects, but not as evident in the vocational subjects in which the students have no prior experience. She describes how a visiting principal from a high-performing school once remarked that her own teachers were passionate about their academic subject, whereas Mary's teachers where passionate about their specific student group. They were there "by heart". They were not only teachers in a narrow and technical sense; rather, they were teachers and fellow humans intermingling in all dimensions of social life.

Mary further describes the student population as highly diverse in terms of learning difficulties, socioeconomic background, diagnosis, ethnicity, gender and the like; some are not well off and even poor by Swedish standards. The school cares about attendance because it is in the school we can make an impact, says Mary. She describes how they pick up some students at home with one of their busses every morning in order to secure attendance. They have arranged apartments for students with insecure domestic or family conditions. They serve breakfast and food during the school day and the least well off can even take food home. They organize drug tests

and mobilize student health resources. Mary laughs when she explain every detail she needs to know about how to make sure that the students do not cheat during the drug tests since they are important for a safe learning environment among trucks and machines.

5.2 PROFESSIONAL DEVELOPMENT: A HETEROGONOUS AND COMPLEX AFFAIR

Mary describes the students as a highly diverse group, and she describes her staff in similar heterogeneous terms. Consequently, she finds it futile to use only one way or one strategy for pedagogical leadership. She divides her teachers roughly into three groups:

> *We have the uneducated vocational teachers who have yet to take formal teacher education and a proper teacher role. We have certified core teachers with no experience at all from working life. We have formally educated vocational teachers who have chosen to be teachers and we have core teachers with experience from working life outside schools. The first group can be construction workers or hairdressers and they need an introduction to the world of schooling. We need to translate the language of education for them so that they stand a chance to grasp the basics of lesson preparation, teaching, assessments and learning in schools. The first group remain in their occupational professions although they are hired as teachers. [...] It is difficult to recruit educated teachers for all professions. Many of them are attracted to schools because of the long summer holidays, but they are not willing to study. They seem to be afraid of studying. One can only wonder – what was*

schooling like for them? We talk about the importance of lifelong learning, but these teachers do not. It is so sad.

Mary thinks that many of the teachers carry the same distrust and experiences of failure as the student group. That is why leading teacher professional development has to be adapted to individuals and different groups of individuals. Mary herself is a former hairdresser. This gives her a certain legitimacy in the eyes of the vocational teachers. However, this is not the case with the academic teachers. She feels confident in relation to the former group because of her skills and occupational background, but more uncertain in relation to the latter group when she has to draw more on her academic background. Mary describes her own professional development as a never-ending story in constant transformation. In the beginning, she thinks she was a rule rider, leaving out other aspects of leadership. Now she feels more confident and can integrate heart and brain in her work, and she thinks that admitting not knowing all the answers is a sign of maturity.

4.3 LEADERSHIP FOR TEACHING, LEARNING AND THE INCLUSION IN SOCIETY

If one wants to earn the students' trust, one must make sure that schooling does not result in a second failure. This is not only about academic achievement and about learning goals in different school subjects, says Mary. She claims that principals in vocational education and training need to be responsive to what the surrounding society and occupational organizations count as crucial skills and up-to-date knowledge if they want their

student to be successful and employable. Sometimes national curricula and course syllabi are in conflict with the demands of companies, branch organizations and occupational organizations. Mary says that she has to inform herself about:

> *all the regulations related to different occupations; building and construction, painting, bricklaying, transportation (trucks, buses and taxi-driving), running a driving school, the food industry, restaurants, cafés, bakeries, electrical engineering, hair dressing, eyelash extensions, nail therapy, stylists, commerce, taking care of dogs, horse nutrition, veterinary care and vehicle engineering.*

In the narrow sense, she has to be well enough informed to be able to run the school properly. However, in a broad sense Mary thinks that she needs to inform herself about the regulations in order to be able to effectively prepare students for their future working life. Mary's school context requires a vast and complex understanding of regulations that are not exhausted by national curricula or school regulations. Mary attends meetings regularly with interest groups and branch organizations. Collaboration with external interests is of great importance for Mary's work as a pedagogical leader. The needs of different occupational organizations must be taken seriously since it is in their fields the students will work in the near future. She describes that the borders between the school and the surrounding society and occupational organization are blurred. In many respects, the school is located in the cross section between education and working life, and this in turn is relevant for the organizational identity of the school.

5.4 ORGANIZATIONAL COMPLEXITY
AND EXTERNAL TEACHING

Mary describes a hyper-complex school organization in terms of a vast number of regulations, learning environments and teaching practices. The most complicated aspect is, in Mary's narrative, that the teaching takes place not only within the school building. The school enrolls about 450 students who participate in workplace learning. This means that the teachers must establish relationships with hundreds of workplaces. This further blurs the boundary between the external environment and the internal organization. Each place has not only to be contacted, controlled and assessed before work place learning starts. The vocational teachers are also expected to visit, assess and examine the work of students together with workplace coaches. However, following up on student's workplace learning is a well-known coordination problem in Sweden and Mary has chosen her own solution.

> *I decided to develop an application that makes it possible for students to report their everyday work, and they do not necessarily need to write if they do not want to. This means that I, as a hairdresser, can publish pictures of the dolls the students are working on. As a vocational teacher, I can give feedback via the application. The teachers can send in reports from their visits to workplaces. The coaches can see what the teachers have written. The application facilitates assessment, grading and the like.*

Mary developed the application when she found out that some of the teachers were playing golf rather than visiting workplaces. She wanted to find a way to take make sure that the students

were receiving the teaching they were entitled to. We can see Mary's application as a solution to the coordination problems and the communicative challenges a principal needs to deal with in a highly complex vocational school.

5.5 BEING AND BECOMING A SCHOOL LEADER – A NEVER-ENDING UNIFYING PROCESS

Mary manages and draws on many different contexts in her occupational roles as an assistant principal and superintendent. She describes herself as rooted in her previous occupational roles and professional knowledge as hairdresser and teacher, and that this rootedness is of great importance in her work as an assistant principal. She stresses the need to be confident although things change and her identity is subject to continuous transformation. She draws on previous experiences and she thinks this is important since some of the teachers used to be her close colleagues. Mary tries to remember what she used to experience as unfair and bad from the perspective of a teacher and uses her experiences in decision-making and action. Her challenge is to see how all parts of the school organization are related to one another and how to make them act in concert. Mary says:

> *Everything is interrelated. There can be greater consequences than I expect. I repeatedly try to motivate and explain to the staff why we make our decisions, why we move in a certain direction or what consequences we might expect. As principals, we need to have a helicopter perspective and we need to think about the big picture and all possible consequences.*

Mary's narrative actualizes the general traits of successful school leadership that have come to the fore in recent research and the standardization of school leadership, such as setting goals and visions, leading teaching and learning, promoting school cultures of learning and collaboration, promoting professional development, and establishing good relationships with external stakeholders and the surrounding community. However, what is striking in Mary's narrative is the hyper-complex conditions under which leadership for teaching and learning can take place in a vocational school. Mary's narrative exposes the somewhat deceptively simple and singular language in which recent research and leadership standards are articulated, and it highlights aspects of organizational complexity that we should no longer ignore for our understanding of school leadership in different contexts. For instance, relationships with external stakeholders and the surrounding community is not a clear cut affair when one's school organization is intertwined with and shaped by the interests of stakeholders and when one's school depend on external teaching in a variety of workplaces that stretches far beyond the actual school.

6. MANAGING CONTEXTS, MASTERING COMPLEXITY: SCHOOL LEADERSHIP IN VOCATIONAL EDUCATION

This paper had as its starting point the newborn interest in and growing recognition of school leadership and school leaders. We discussed how the performative link between school leadership and student achievement has come to be a dominant research agenda in the 21st century, and how synthesizing or meta-an-

alytic research has resulted in general knowledge in terms of descriptions of what successful school leaders do (or know) when they succeed in enhancing student learning and achievement. However, there is a tension between the general knowledge base of school leadership drawn from synthesizing and meta-analytic research on the one hand and the context dependency and organizational complexity that no school leader can escape on the other. School leaders are not standardized and statistically-generated entities. They are complex beings rooted in different social, cultural, personal and educational contexts essential for their lives and work, and this is also important for research based understandings of school leadership.

We have argued that is important to go beyond seemingly simple descriptions of school leadership and pay attention to context dependency and organizational complexity as fundamental traits of schools and school leadership. In short, we have suggested that a more fully fledged and practical understanding of school leadership for teaching and learning can benefit from taking the perspectives of actual thinking and acting school leaders seriously. Such perspectives have often been bypassed in recent research aimed at general knowledge about what successful school leaders know and do. One can always argue that Mary's narrative as reconstructed above is too specific to allow us to learn something interesting about school leadership in general. However, we would like to challenge that assumption. We think that we have reason to uncouple ourselves from abstract imaginations of normal, standard or typical schools or school leaders and pay attention to the complexities of actual schools and school leaders in all kinds of educational contexts. In this final section, we discuss briefly some of the things we can

learn from experienced Swedish principals when they take on the challenges of school leadership in vocational education and training. Our preliminary conclusions are not final words; we prefer to see them as suggestions and eye-openers based on the narratives of school leaders, context dependency and organizational complexity that we have brought out of the darkness into the light. In the discussion below, we draw mainly on the case of Mary, but also from a larger part of our narrative material when we need to stress a point.

It is clear that principals do depend on and adjust to different contexts. This is a necessity, and hardly a surprise although this fact is not always recognized in research on and standardization of school leadership. People act and learn in time and space with other people conditioned by the sociocultural environments to which they belong. In the Mary narrative, the principal describes how she is moved by, adjusts to and needs to inform herself about different contexts that both enable and restrict her work, such as numerous laws and regulations, a heterogeneous school culture, diverse colleagues, different professional identities, personal identities, school traditions, occupational organizations, social imagination and other expressions of context dependency essential for school leadership. It is difficult in principle to determine exactly which contexts a school leader depends on. However, contexts are not just given to school leaders. They can choose and use contexts in their leadership for teaching and learning, and this is evident in the narratives we have studied. Mary chooses and uses her background as a hairdresser when leading professional learning among the vocational teachers, and she chooses and uses her academic background in her collaboration with core teachers. This suggests that school leaders are not

only subject to different contexts; they can be *competent managers of contexts* in terms of their capacity to understand, adjust to and use contexts in their leadership.

It is easy to say that an organization is complex, but it is difficult to grasp the deeper meaning of organizational complexity. In our narrative study, there are many examples of how experienced principals seem to be able to grasp widespread interconnectivity among the individuals and elements in a school organization. They do not shy away from complexity by constructing a one-dimensional view of their schools. We cannot see any signs of them complaining about complex phenomena because of mindsets that expect simplicity, regularity and predictability. Many principals express in their narratives how they repeatedly have to deal with dissonance and tensions, and how they work hard to get the different individuals to work in concert. Mary seems to accept organizational complexity, and from that mindset she investigates her school and develops strategies for school improvement. In our view, successful principals in vocational education and training seem to embrace complexity; many of them express a holistic and interdependent view of their school organization. A reconstruction of Mary's ideas suggests a holistic, complex and transactive focus on the organizational capacity of the school, and to what degree the different elements in the school's organization work in concert to support teaching and learning. This is why we think of school leadership for teaching and learning as *mastering complexity*.

Human and linguistic communication is essential to schools and school leadership, and this is reflected in almost all of the narratives in our study. Many of the narratives of experienced principals express *advanced communication awareness*. They

430

seem to realize that a school is a network of meaning that cannot be taken for granted, although we often seem to do so. Mary engages in conversations with teachers covering everything from basic understanding to competence refinement. This is not unique to Mary's narrative. The principals do not take for granted the roles of schools and teachers, as they know that they depend on communication and meaning. They use themselves as role models in complex communication and problem-solving because they want their teachers to improve their communication skills and strategies. They realize that getting things done in schools means getting things shared continuously by consciously crafted, deliberate and recurrent communication processes. They use different channels for communication, and in their narratives they describe how they deliberately adjust their own communication to the specific groups they address. We think that advanced communication awareness is essential for school leaders who lead complex processes of teaching and learning in complex schools.

In paying attention to context dependency and organizational complexity, we identify another aspect of school leadership as significant in our narrative material. Experienced school leaders tend to replace *narrow leadership for teaching and learning* focused primarily on results and academic achievement with *broader leadership for education* aimed at inclusion in both working life and society. What unites the narratives from principals working in vocational education and training is that it is the imaginary aspect of education that moves them. This means that schools are ultimately understood and legitimated against a wider view of human interconnectivity that stretches beyond a particular school. Mary describes how she takes seriously the

experiences of school failure among her students. In her narrative and those of other, learning is not only about learning goals, school subjects and academic achievement; rather, the principals in vocational education and training think of the future life chances of students in working life and in society at large, and they find it important to restore trust and lost confidence. The experienced principals seem to think that learning goals and results are not of intrinsic value or the point of schooling. They are of value (or so it seems) only to the extent that they can help the students link into and find their way in society.

Finally, the narratives of experienced school leaders reveal how they are reflective about their own being, knowledge and learning. These principals blur the functional roles of learner, teacher and leader. They seem to take on all three roles, but more importantly, they express a *reciprocal or dialogical relationship between leading and learning.* Mary seems to be able to take a dialogical attitude to research, colleagues and others, and she stresses the importance of learning in leadership. Mary and her colleagues are in many ways successful in terms of their achievements as school leaders, but what distinguishes them is that they seem to be motivated by curiosity, learning and making a difference rather than achieving success. They seem to be triggered by difficult problems and true challenges, such as Mary's invention of an application to deal with the complexity of workplace teaching.

In our reading of the narratives as a whole as well as in our meetings with the principals on several occasions, we have been struck by the learning orientation of the principals: the way they describe how they investigate their own organizations and not only act on intuition or convention; the way they describe the

focus on empowering listening and communication; and finally, the way they distance themselves just to be able to come closer to the peculiarities of their own organizations and better understand them. In short, they seem not only to lead for learning, they seem to exercise leadership as learning. We believe that leadership as learning is an important aspect of successful school leadership since leadership depends on organizational complexity and different contexts.

In this paper, we have examined and analyzed the narratives of actual school leaders as they face the challenges and growing expectations of embracing instructional leadership, or leadership for teaching and learning, in their work. In doing so, we actually think we can learn something interesting about school leadership in general since the narratives can be seen as examples revealing significant characteristics in particular samples. We have studied school leadership from the perspectives of actual school leaders. We have tried to take seriously rather than bypass conditions no actual school leader can escape. We think there is a need to recognize successful school leaders not only as high-performing instructional leaders but also as masters of organizational complexity.

REFERENCES

Bell, I, Bolam, R., Cubillo, L. (2003). Foul is Fair and Fair is Foul: Conducting a Systematic Review of an Aspect of Leadership and Management. In Anderson, L. and Bennett, N. (eds) *Developing Educational Leadership: Using Evidence for Policy and Practice.* London: Sage.

Center of Study for Policies and Practices in Education and Organization for Economic Cooperation and Development (CEPPE) (2013). *Learning standards, teaching standards, standards for school principals.* Paris: OECD Publishing.

Day, C., Gu, Q. & Sammons, P. (2016). The Impact of Leadership on Student Outcomes: How Successful School Leaders Use Transformational and Instructional Strategies to Make a Difference. In *Educational Administration Quarterly* 2016, Vol. 52 (2): 221–258.

Hallinger, P. (2015). *Assessing Instructional Leadership with the Principal Instructional Management Rating Scale.* Berlin: Springer.

Hattie, J., Rogers, J. och Swaminathan, H. (2014). The Role of Meta-analysis in Educational Research. In Reid, A., Harrt, E and Peters, M. (eds.) *A Companion to Research in Education.* Springer Verlag, pp. 197–207.

Hawkins, M and James, C. (2018). Developing a perspective on schools as complex, evolving, loosely linking systems. In *Educational Management, Administration and Leadership*, 46 (5): 729–748.

Holmgren, M. Johansson, O, Nihlfors, E. and Skott, P. (2012). Local School Governance in Sweden: Boards, Parents, and Democracy. In *Journal of School Public Relations,* Vol. 33 (1): 8–28.

Ingvarson, L., M. Anderson, P. Gronn, and A. Jackson (2006) *Standards for school leadership: A critical review of literature.* Melbourne: Australian Institute for Teaching and School Leadership.

Leithwood, K. and Seashore Louis, K. (2011). *Linking Leadership to Student Learning.* Jossey Bass

Leithwood, K. & Riehl, C. (2003). *What we know about Successful School Leadership.* Report Division A, AERA, Autumn 2003. National College for School Leadership.

Leithwood, K., Harris, A. and Hopkins, D. (2008). Seven strong claims about successful leadership. In *School Leadership and Management*, 28 (1): 27–42.

Lumby, J. and English, J. (2009). From simplicism to complexity in leadership identity and preparation: exploring the lineage and the dark secrets. In *International Journal of Leadership and Education*, Vol. 12 (2): 95–114.

Marzano, R. J., Waters, T. and McNulty, B. (2005). *School Leadership that Works: From Research to Results.* ASCD and McREL

OECD (2016). *School leadership for learning. Insights from Talis 2013.* Paris: OECD Publishing.

Pring, R. (2015*). Philosophy of Educational Research. 3ʳᵈ Edition.* Bloomsbury: London.

Robinson, V., Hohepa, M. & Lloyd, C. (2009). *School Leadership and Student Outcomes: Identifying What Works and Why. Best Evidence Synthesis Iteration.* New Zealand: Ministry of Education.

Rönnström, N. (2011). Cosmopolitan Communication and the Broken Dream of a Common Language. In *Educational Philosophy and Theory*, 43(3): 260–282.

Rönnström, N. (2015). Educating competitive teachers for a competitive nation? In *Policy Futures in Education,* 13(6): 732–750.

Skott, P. (2009). *Läroplan i rörelse: det individuella programmet i möte mellan nationell utbildningspolitik och kommunal genomförandepraktik.* [The Interplay between National Educational Policy and Local Practice: A study of

curriculum processes] Doctoral dissertation, Uppsala University, Department of Education.

Skott, P. and Kofot, K. (2013). Independent Schools in Different Nordic Contexts: Implications for School Leadership? In Moos, Lejf (ed.). *Transnational influences on values and practices in Nordic educational leadership: is there a Nordic model?* Dordrecht: Springer.

Skott, P. (2014). I mötet mellan nationell utbildningspolitik och lokala styr-rum. [At the Intersection between National Education Policy and Local Spheres of Governance] In O. Johansson, & E. Nihlfors, (eds.): *Skolledare i mötet mellan nationella mål och lokal policy. [School Leaders at the Intersection between National Aims and Local Policy]* Malmö: Gleerups.

Southworth, G. (2003). Learning-centred Leadership. The Only Way to Go. Victoria: Australian Principal Centre.

Wei, W. (2017). Education Policy Borrowing: Professional Standards for School Leaders in China. In *Chinese Education and Society,* 50: 181–202

Ylimäki, R. (2013). *The New Instructional Leadership*. Routledge.

Young, M., Anderson, E. och Nash, M. (2017). Preparing School Leaders: Standards-based Curriculum in the United States. In *Leadership and Policy in Schools*, 16 (2): 228–271.