Towards professional growth: essays on learning and teaching forest economics and marketing through drama, role-play and reflective journals

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Academic Dissertation

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ABSTRACT

The requirements of the current working life are setting new challenges for higher education. It is widely accepted that besides mastering academic knowledge and skills, university graduates should also be provided with diverse generic skills before they begin their careers. However, there seems to be a gap between higher education and the needs of professional life. The findings of this research are designed to help tackle some of those challenges.

The objective of this dissertation was to advance theories of learning in drama and role-play, and to develop teaching methods that further expert knowledge development in higher education, especially in the field of forest economics and marketing. This study also explored learning journals as a tool for reflection and assessment. This multidisciplinary dissertation uses the mixed methods research approach and consists of a summary and three published (or accepted to be published) essays and one submitted manuscript. The qualitative research data were collected from students' learning journals and a focus group interview, and quantitative data were gathered from two survey questionnaires. Qualitative thematic analysis and qualitative content analysis were applied to the qualitative data. The main quantitative analysis methods included t-tests and ANOVA.

This dissertation introduces educational drama and role-play as viable learning and teaching methods in higher education. According to the findings, both methods seem to be able to involve several learning outcomes that are needed in the development of professional expertise. Furthermore, while real workplace placements cannot always be arranged for students, role-play can act as a supplementary learning method alongside work-based learning. It is also concluded that role-play is likely to suit better for enhancing learning that concentrate on a specific topic or a skill, whereas the strength of drama lies in critically evaluating underlying premises and personal stances students have towards a particular topic of learning. The findings of this dissertation also highlight the notion that reflective skills do not develop by themselves, but they should actively be fostered in higher education.

Along with forest sciences education, other disciplines can also apply the findings in both higher education and vocational upper-secondary education. In addition, the gained information about promoting expert knowledge and skills through drama and role-play can also be transferred to new contexts, such as working-life personnel training and human resources development.

Keywords: expertise, higher education, forest sciences, drama, role-play, learning journals

TIIVISTELMÄ

Nopeasti muuttuva työelämä asettaa uusia haasteita yliopisto-opetukselle, ja varsin yleinen käsitys on, että opiskelijoiden tulisi yliopisto-opinnoissaan oppia myös työelämässä vaadittavia yleisiä taitoja. Nykyinen korkeakouluopetus ja työelämän tarpeet eivät kuitenkaan näytä kohtaavan tarpeeksi hyvin. Tämä tutkimus on omalta osaltaan kuromassa umpeen havaittua työelämän ja opetuksen välistä eroa.

Väitöskirjassa tutkitaan mahdollisuutta edistää työelämätaitoja simuloimalla työelämän tilanteita tai käsittelemällä draaman keinoin täysin fiktiivisiä tilanteita. Tavoitteena oli tuottaa tietoa metsäekonomian ja markkinoinnin opetuksen kehittämiseen, jotta opetus antaisi opiskelijoille entistä parempia valmiuksia toimia asiantuntijana työelämässä. Tavoitteena oli myös tuottaa uutta tietoa draamasta ja roolipeleistä opetusmenetelminä yliopistotasoisessa opetuksessa ja keinona kehittää asiantuntijatiedon osa-alueita. Tutkimusmenetelmien osalta tavoitteena oli tutkia oppimispäiväkirjoja tutkimusmateriaalina sekä kehittää välineitä oppimispäiväkirjoissa esiintyvän reflektoinnin analysoimiseen.

Väitöskirja on monitieteellinen, monimenetelmäinen tutkimus, jonka aineisto koostuu opiskelijoiden oppimispäiväkirjoista, pienryhmähaastattelusta ja lomakkeilla kerätystä palautteesta. Oppimispäiväkirjat ja haastattelu analysoitiin laadullisen tutkimuksen menetelmiä käyttäen, ja osatutkimuksissa analyysiluokkia luotiin sekä induktiivisesti (aineistolähtöisesti) että deduktiivisesti (teorialähtöisesti). Määrällisiä analyysimenetelmiä (mm. ANOVA, t-testi) käytettiin kyselylomakkeiden analysoinnissa ja laadullisen aineiston jatkoanalysoinnissa. Väitöskirja koostuu yhteenvedosta, kolmesta julkaistusta (tai julkaistavaksi hyväksytystä) esseestä ja yhdestä esseekäsikirjoituksesta.

Väitöskirjan tulokset osoittavat, että draama ja roolipelit ovat varteenotettavia opetusmenetelmiä yliopistotasoisessa opetuksessa. Molempien opetusmenetelmien avulla voidaan edistää osa-alueita, joita tarvitaan asiantuntijuuden kehittymisessä. Roolipeleillä voidaan lisäksi osittain korvata työssä tapahtuvaa oppimista, mikäli aitojen työelämäkokemusten järjestäminen ei ole jostain syystä mahdollista. Verrattaessa draamaa ja roolipelejä toisiinsa roolipeli näyttää sopivan opetusmenetelmänä paremmin tilanteisiin, joissa tavoitteena on keskittyä jonkin tietyn taidon tai aihealueen oppimiseen. Draaman vahvuudeksi havaittiin sen kyky ohjata opiskelijoita arvioimaan kriittisesti sekä opiskeltavan ilmiön perusperiaatteita että opiskelijan omaa asennetta ja suhdetta käsiteltävään aiheeseen. Tutkimustulokset osoittavat myös, että opiskelijoiden reflektointitaidot eivät kehity itsekseen, joten niiden kehittämiseen täytyy kiinnittää huomiota korkeakouluopetuksessa.

Tutkimustuloksia voidaan soveltaa metsäalan opetuksen ohella myös muiden alojen opetuksessa keskiasteella ja korkeakouluissa. Asiantuntijatiedon kehittämisestä saatava tieto on siirrettävissä koulutussektorin ulkopuolelle hyödyttämään eri alojen yritysten henkilöstön kehittämistä ja sisäistä koulutusta.

Asiasanat: asiantuntijuus, yliopisto-opetus, metsätieteet, draama, roolipelit, oppimispäiväkirja

"On vaikeeta ajatella, että se sun väitöskirja voi ihan oikeesti valmistua. Se on ollu vähän niin kuin Muumipapan muistelmat, joita vaan kirjoitetaan ja kirjoitetaan."
Akseli 14 v. keväällä 2012

"It is hard to imagine that your dissertation could actually be finished. It has been a bit like Moominpappa's memoirs that are just written and written." Akseli, 14, Spring 2012

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Espoo, Finland, October 2012
Kirsi Kettula

LIST OF ORIGINAL ARTICLES

This doctoral dissertation is based on the following four articles, referred to according to their Roman numerals. Essays **I** and **IV** are reprinted with the kind permission of the publishers, essay **II** is the author's version of the accepted manuscript, and essay **III** is the author's version of the submitted manuscript.

I   Kettula-Konttas, K. 2009. Enhancing understanding–Drama as a tool in higher education. In: Shu, J., Chan, P., McCammon, L.A., Owens, A. & Greenwood, J. (eds.). Planting Trees of Drama with Global Vision in Local Knowledge: IDEA 2007 Dialogues. IDEA Publications, Hong Kong Drama/Theatre and Education Forum, Hong Kong. p. 336-353.

II   Kettula, K. & Clarkeburn, H. 2012. Learning through fictional business: expertise for real life?
http://www.emeraldinsight.com/products/journals/journals.htm?id=et

III   Kettula, K. & Berghäll, S. Learning through role-play: gaining features of work-based learning? Manuscript.

IV   Clarkeburn, H. & Kettula, K. 2012. Fairness and using reflective journals in assessment. Teaching in Higher Education 17 (4): 439–452.
doi: 10.1080/13562517.2011.641000

DIVISION OF LABOUR IN THE CO-AUTHORED ARTICLES

II   The idea of the essay was developed by Kirsi Kettula. The educational setting and the collection of the qualitative data were jointly planned and implemented by Kirsi Kettula and Henriikka Clarkeburn. Kirsi Kettula planned the collection of the quantitative data, and analysed both the qualitative and quantitative data. Henriikka Clarkeburn conducted the check-coding of the qualitative data. Kirsi Kettula wrote and revised the manuscript.

III   The idea of the essay was developed by Kirsi Kettula. The educational setting was jointly planned and implemented by Kirsi Kettula and Sami Berghäll. Kirsi Kettula planned the collection of the data, and analysed the data. Sami Berghäll rechecked the analysis and confirmed the findings. Kirsi Kettula wrote and revised the manuscript.

IV   The idea of the essay was developed by Henriikka Clarkeburn. The educational settings and the data collection were jointly planned and implemented by Kirsi Kettula and Henriikka Clarkeburn. Kirsi Kettula analysed the quantitative data. The qualitative data analysis was jointly made by Kirsi Kettula and Henriikka Clarkburn. The manuscript was jointly written and revised by Kirsi Kettula and Henriikka Clarkeburn.

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CONCEPT DEFINITIONS

Because there are no single definitions available for many concepts, it is worthwhile to define how some specific concepts are understood and applied in this particular dissertation. Here I will discuss expertise, drama, role-play, work-based learning, reflection, and learning journals.

Expertise is regarded as an on-going process that develops in social interaction through problem solving and reflection, in which each individual's expert knowledge (i.e., formal, practical and self-regulatory knowledge) is also an essential element.

The terms *drama* and *educational drama* are used interchangeably, referring to an activity in which the students are active participants without pre-written scripts and a process that does not aim at producing any performance for an external audience. Various forms of dramatic conventions are used to explore and reflect upon a chosen theme, and the differences in opinions and worldviews are made visible. The overall aim of drama workshops is to reach a multifaceted understanding of the theme in question and of one's personal stance towards it.

The term *role-play* refers to a free form, unstructured/developmental role-play, in which participants are given experiences of problem-solving and tackling challenging tasks. All participants are expected to act as they think, given the situation, a person would behave as a result of what is going on around them. Role-play experiences are turned into learning through reflection.

The term *work-based learning* refers to learning that includes a genuine working-life element, i.e., either a work placement or a genuine real-life project. In the case of work placements, the terms work-based learning and workplace learning are used interchangeably.

Reflection is understood as an amalgamation of Moon's (1999) and Boud's (2001c) definitions, regarding reflection as a tool to make sense and give meaning to unstructured and complex ideas or experiences by focusing on the thoughts and emotions they prompted.

Critical reflection is defined as a fusion of Reynold's (1998) and Mezirow's (1990, 1991) works consisting of an activity that seeks to reveal underlying values and beliefs, of which the agent is often unaware, but which guide actions and thinking processes.

The term *learning journal* refers to a writing assignment that is written as a follow-up of a single course activity or an entire course, in which the students are asked to write down their reflections on their experiences, emotions, ideas and materials encountered during the activity or the whole course. The terms learning journal and learning journal entry are used interchangeably.

1. INTRODUCTION

1.1. The discipline of Forest Economics and Marketing

The context of this dissertation is the learning and teaching of Forest Economics and Marketing at the Department of Forest Sciences at the Faculty of Agriculture and Forestry at the University of Helsinki. At the core of the discipline is the combining of economic and ecological viewpoints, and as an applied science, the discipline investigates forest-related issues in a broad socio-economic context. The discipline comprises three study lines: Forest Products Marketing and Management, Business Economics of Forestry, and Forest Resource and Environmental Economics. The substance in these study lines draws from various different theoretical and methodological backgrounds, including the theories and methods of strategic management, marketing, general business economics, decision-making, natural resource and environmental economics, and environmental policy (see also, Department of Forest… 2012).

The annual intake of students varies slightly from year to year. At the Department of Forest Sciences, there were 66 new Bachelor students admitted in 2012. Of these, 22 were students of Forest Economics and Marketing, and the remaining 34 were students of Forest Ecology and Management. In addition, eleven students were taken into Biotechnology, which is a shared major between the Department of Forest Sciences and three other departments of the Faculty of Agriculture and Forestry. The basic degrees offered by the Faculty of Agriculture and Forestry are a three-year Bachelor's of Science and a two-year Master's of Science. The students taken into the Bachelor level studies also receive the right to pursue Master's level studies in their discipline. In addition, the Faculty of Agriculture and Forestry also offers seven international Master's Degree programmes; in the field of Forest Economics and Marketing, the most relevant international programme is the Master's Degree programme in Forest Science and Business.

At the Department of Forest Sciences, the goal of teaching is to make students experts in their own fields: experts, who can combine scientific knowledge with practical problem-solving skills to further ecologically, economically and socially sustainable use of forests and forest environments. The education also emphasises multidisciplinary and multicultural thinking. (Metsäopetuksen strategia 2010-2016) In the teaching of Forest Economics and Marketing, there is also a particular emphasis on furthering multicultural and interpersonal communication skills. In addition, due to the nature of the discipline, the students of Forest Economics and Marketing need to learn to understand and combine different premises, orientations and viewpoints. Thus, alongside teaching the substance of the discipline, there is also a need for instructors to further several skills during the years of study. Although the curriculum includes obligatory courses in some skills (e.g., communication), much of the skill development should take place during the regular subject matter courses in Forest Economics and Marketing. As teaching methods, the current classroom teaching mainly deploys lectures and various group-based activities, including an array of writing assignments or mathematical exercises for the students. Thanks to the fairly small yearly intake of students (20-25 new students yearly), the group sizes in the three separate study lines usually remain quite modest, thus allowing opportunities for a vivid interaction in the lecture-based courses. Along with face-to-face teaching, web-based learning environments are in use in several courses.

1.2. Challenges of higher forestry education

The requirements of the current working life and the principles of life-long learning are setting new challenges for higher education. Besides mastering the academic knowledge and skills, the graduates should also be provided with various generic skills for their future working life, such as critical thinking, problem-solving, collaboration, teamwork and communication skills as well reflective, self-regulatory and life-long learning skills (e.g., Tynjälä et al. 2006, Ackerman et al. 2003, Tynjälä 1999, European Parliament and Council 2006, Xia et al. 2012).

In addition to the changing demands of working life, the forest sector is also facing challenges due to the changing roles of forests and forestry. These include the decreasing emphasis on wood production combined with a growing attention on sustainability; the increased importance of environmental functions of forests, the increasing involvement of stakeholders, and the focus on nature rather than on the forest itself (Bartelink and Schmidt 2006). Furthermore, the number of stakeholders interested in forestry has increased due to the internationalisation and globalisation of trade and the development of environmental movements (Pelkonen and Schuck 2006). However, communication between the forest sector and different stakeholders has not always been successful, and sometimes the disputes have even ended up in open conflicts (see, e.g., Mola-Yudego and Gritten 2010).

According to Kennedy and Koch (2004), forest education should aim at developing experts who are able to both manage a wide spectrum of natural resources and take into account diverse and changing social values. That is, it is seen as a goal to educate experts that view and manage natural resources as human-ecosystem relationships. Developing an open and critical mind as well life-long learning skills are also widely considered as important targets of forest education (Nair 2004, Bartelink and Schmidt 2006, The European Forest-Based Sector Technology Platform 2005). In addition to these goals, academics and different players in the forest sector have identified various key skills and competences that the future experts in the field should have. In addition to technical skills, several generic skills are also promoted, including communication, language, and problem solving. Cooperation, teamwork and networking skills are also recommended along with, openness, broadmindedness, and cultural and inter-cultural competences (FTP Education & Training Group 2009, Ministry of Education 2008, Arevalo et al. 2010, Langfehlder and Rahlf 2010, Joutsenvirta and Uusitalo 2010, Lewark 2008).

Hence, there is a broad understanding that various working-life skills should be nurtured, but higher education does not seem to be able to further them well enough (see e.g., Arevalo et al. 2010, Xia et al. 2012). Traditional education often focuses on teaching and transmitting formal knowledge, but these teaching methods do not necessarily support skills development (Tynjälä et al. 2006, Tynjälä 1999, Stenström 2006, Bereiter and Scardamalia 1993; see also, Schuck 2009). Thus, in order to advance the needed key skills and competencies, higher education has to pay more attention to its ways of teaching. For instance, just to mention a few examples from Finnish universities, the University of Helsinki (2009) states in its strategy that it will make its education more relevant to work life; Aalto University (2011) aims at including the investigation of societal and working-life challenges in its repertoire of teaching approaches, and the University of Jyväskylä (2010) pursues developing pedagogies that integrate transferable skills with academic education. Regarding forest sector education, the Finnish Ministry of Education (2008) recommends that work-based, project-based, inquiry-based, and problem-based learning approaches could be applied in forest education. Thus, it is widely accepted that higher education

should involve elements that further working-life skills. In the next chapter, experiential learning, role-play and educational drama will be introduced as possible educational tools in this context.

1.3. Using experiential learning, role-play and educational drama in higher education

According to Frontczak (1998), experiential learning activities are reported to increase student involvement and motivation, help students integrate theory and practice in order to make a connection with the "real world", improve such skills as communication and critical thinking, and increase student learning. At the heart of experiential learning is the basic concept that meaningful learning occurs when students are actively involved with an experience and then reflect on that experience (Frontczak 1998). According to Kolb's (1984) popular and often-cited experiential learning theory, learning occurs through a recurrent cycle of experiencing, reflecting, thinking and acting. However, experiential learning is a heterogeneous concept (see e.g., Fenwick 2000, Michelson 1999), and Kolb's theory is only one example of this broad field of research. The foundation of Kolb's theory dates back to authors such as John Dewey, Kurt Lewin, Jean Piaget, Carl Rogers and Paolo Freire, who stressed the importance of a conscious intentional action based on subjective experience as a major component of human learning and development (Kolb 1984).

Over the years, different types of experiential learning approaches have been used across disciplines to complement existing learning and teaching approaches. A number of studies on experiential learning can be found in education, management, marketing, information science, psychology, medicine, nursing, accounting, social work and law (see, e.g., Kolb and Kolb 2005, Steel et al. 2007, Frontczak 1998, Cantor 1997). Because forest sciences is a discipline typically at the interface between science and application (Bartelink and Schmidt 2006), experiential learning has been a common component in the education in the forms of fieldwork, laboratory studies and internships (see also, deGiacomo 2002).

Role-play and educational drama are examples of experiential learning that are based on simulated or fictitious experiences, instead of genuine ones. According to Lean et al. (2006), evidence on the extent to which simulation approaches are used for teaching in higher education is patchy. Although there are a great number of studies reporting the development, use and evaluation of specific simulation activities in various disciplines, there is limited statistical evidence on using the different forms of simulations across subject areas. According to Armstrong (2003), role-play has been used in a range of disciplines including drama, education, psychology, social sciences, philosophy, English literature, and foreign languages. In fields from environmental science, engineering, geography, health sciences, to business, tourism and hospitality, ethics, economics, marketing, political science and information technology, role-playing has also been used in effective teaching. In forest sciences, it is difficult to find evidence of its use in teaching. However, being such a wide-spread teaching method, it is evident that it has been applied in the teaching of forest sciences, as well. This has been reported in some sporadic discussions with colleagues and students from The Netherlands, for example. Nevertheless, it is reasonable to argue that the use of role-play for the teaching of forest sciences is not very extensive.

There is little evidence on the extent of the use of educational drama as a teaching method in higher education. Although in some disciplines—including, teacher education (e.g., Pongsophon 2010, Kana and Aitken 2007) and medical education (e.g., Bosse et al.

2010, Alraek and Baerheim 2005)—there are several individual published studies on educational drama, it can nevertheless be argued that studies of drama as an educational tool in higher education are fairly scarce (see also, Brennan and Pearce 2009, Laakso 2004). Considering forest sciences education, the studies of the use of educational drama are almost non-existent, apart from some of my own previous studies (e.g., Kettula-Konttas and Berghäll 2005, Kettula-Konttas 2009). For one, this dissertation is designed to address the lack of research on the use of educational drama and role-play in the forest sciences field. In the following, learning journals will be introduced as a form of reflection that can be linked to both drama and role-play in higher education.

1.4. Features of learning journals

In this dissertation, learning journals are used as the main tool with which students will reflect on learning after drama or role-play workshops. According to Hiemstra (2001), journaling in its various forms is a means for recording personal thoughts, daily experiences, and evolving insights. Further, according to Hübner et al. (2010), a learning journal is a writing assignment that typically is written as a follow-up of a course activity, where the students are asked to write down their reflections on the materials encountered during a lecture or course. Moon (1999) regards learning journals as texts that are written over a certain period, consisting of accumulated material mainly based on the writer's reflection. In literature, journal writing is usually considered a process or a repeated activity that consist of several entries (see Dyment and O'Connell 2011), although other examples also exist where a single reflective paper is regarded as a learning journal (e.g., Wong et al. 1995). There are several different terms that are used to describe the same type of activity as learning journals, such as learning diary, learning log, and learning protocol, and very often these are also used interchangeably.

Learning journals can be written for manifold purposes. According to Boud (2001c), learning journals can act as a tool to explore experiences, and thus the learner can find new meanings for experienced events. Hiemstra (2001) regards reflective journals as a tool to aid students in terms of personal growth, synthesis, reflection on new information, and promotion of critical self-reflection. Moon (1999) presents an extensive list of possible purposes for journal writing including recording experience, facilitating learning from experience, developing critical thinking or a questioning attitude, and encouraging metacognition. In her opinion, journal writing can also increase the ability to reflect and think, and enhance problem-solving skills. When it is used as a means of assessment in formal education, it can enhance reflective practice and creativity, and foster communication and reflective, creative interaction in a group. Finally, it can also be used as a means of communication between one learner and another. Moon (1999) herself argues that learning journals are essentially a vehicle for reflection. According to Dyment and O'Connell (2011), irrespective of their purpose, learning journals can serve as tool for reflection before, during, and after a learning experience.

While learning journals can serve many purposes, they are just one important feature of the present study. In the following, the role of learning journals will be shown in the context of the entire study, which will be outlined in more detail.

2. THE OBJECTIVES OF THE STUDY

The main target of this dissertation is to advance theories of learning in drama and learning in role-play. In addition, the aim is, through empirical research, to develop teaching methods that further expert knowledge development in higher education. The overall purpose is to investigate the potential of educational drama and role-play in the higher education context, especially in the field of forest economics and marketing. Studies on using educational drama as a tool in higher education, as well studies on using educational drama and role-play in the teaching of forest economics and marketing in particular, are scarce, therefore, this study was designed to address this gap. Furthermore, given that reflection is a vital element in both expertise development and learning in drama and role-play, this study also explores learning journals as a tool for reflection and assessment in higher education in general, and in the field of Forest Economics and Marketing, in particular.

The objectives were met in four separate Studies by asking the research questions that are listed below. The aims of each individual Study are also explained.

Study I: "Enhancing understanding: Drama as a tool in higher education"

The purpose of Study I was to determine whether drama as educational tool can further professional development by enhancing students' self-knowledge, awareness, and understanding of different perspectives. In addition, the aim was to assess what elements in the drama workshops may have triggered either self-knowledge or awareness of different viewpoints. The objectives were met by asking the following questions:
- Can drama enhance awareness and understanding of different perspectives?
- Can drama enhance students' self-knowledge?
- What elements in drama trigger self-knowledge and awareness of different perspectives?

Study II: "Learning through a fictional business: Expertise for real life?"

The aim of Study II was to investigate whether an ethics course taught through educational drama could be used as a tool to prepare students to meet situations they can expect to encounter in working life. The aim was also to explore how the students perceive the significance of educational drama as a teaching and learning method. The research questions were the following:
- Does a course taught through educational drama provide students with a sense of real life?
- How do the students perceive the significance of educational drama (as a teaching method) in their perceived learning?

Study III: "Learning through role-play: Gaining features of work-based learning?"

The purpose of Study III was to explore what issues the students reflect on after a drama-based role-play (simulation), and what issues the students report as their learning outcomes. The aim was also to discover to what extent an in-class simulation can produce experiences and learning results that are similar to work-based learning with real-life working

experiences, and finally to discuss the strengths and weaknesses of role-play as a form of work-related learning. The following research questions were posed:

- What issues do the students reflect on after a drama-based simulation?
- What do the students report as their learning outcomes?
- What benefits and shortcomings can drama-based simulation have compared to work-based learning?

Study IV: "Fairness and using reflective journals in assessment"

Regarding the dissertation as a whole, the purpose of Study IV was to gain in-depth information about the nature and quality of learning journals, which are the main research material used in this dissertation. Thus, the main aims were to investigate how the students approach reflection, and whether there are contextual influences on how they reflect. In Study IV, the target was also to identify means to support reflection. Furthermore, the Study also investigated the possible means to increase the validity and reliability of learning journal assessment by several assessors. The following research questions were posed:

- How do the students approach reflection and are there contextual influences on how they reflect?
- What can be included in the pedagogical and assessment design to support student reflection?
- What is required to make the assessment of a large number of learning journals by multiple assessors a reliable and valid process?

Hence, the aims of this dissertation and the research questions in the four separate studies touch on several different phenomena, including expert knowledge development, drama in education, role-play, work-based leaning and reflective writing. The theoretical background of these concepts will be treated in the following chapters.

3. THEORETICAL BACKGROUND

This dissertation introduces drama and role-play as feasible educational tools to enhance expertise in higher education. In the following, the concepts of expertise and expert knowledge, educational drama and role-play are addressed in more detail. In addition, the elements of work-based learning are discussed as a form of professional development. Furthermore, because reflection is an essential element in expertise, in learning through drama, in learning through role-play as well in work-based learning, learning journals are presented as one form of reflection. The proposed connections between these concepts are illustrated in Chapter 3.6.

3.1. The concepts of expertise and expert knowledge

3.1.1. The concept of expertise

There are multiple definitions of an expert and expertise. Concepts like professional development, competence, reflective practice and capability are close to the concept of expertise (Edwards and Nicoll 2006). Expertise has also been studied as both an individual and a communal (societal level) phenomenon (Engeström 1992).

There is a long tradition of studying the cognitive skills and knowledge structure of experts. Many scholars refer to the studies of De Groot (1978), Chase and Simon (1973), and Glaser and Chi (1988) as the pioneering studies on the definition of expert characteristics (Rikers and Paas 2005, Gobet 2005, Engeström 1992, Bereiter and Scardamalia 1993). Glaser and Chi (1988, cited in Engeström 1992, and Rikers and Paas 2005) summarise their overview of expert characteristics as follows: (1) experts mainly excel in their own domain of expertise; (2) experts perceive large meaningful patterns in their domains; (3) experts are faster than novices at performing skills and they solve problems quickly with little error; (4) experts have superior short-term and long-term memory; (5) experts' problem representation is deeper (more principled) than that of novices, who tend to represent a problem at a more superficial level; (6) experts spend lot of time analysing a problem qualitatively, and (7) experts have strong self-monitoring skills.

When discussing expertise as an individual phenomenon, researchers often contrast experts with novices in a specific domain (see, e.g., Orland-Barak and Yinon 2005). Instead of contrasting experts to novices, Bereiter and Scardamalia (1993) would rather compare experts to "experienced non-experts". According to this view, expertise is a way of addressing problems: an expert constantly expands his knowledge by addressing new problems, whereas an experienced non-expert ends up gradually narrowing his or her field of work in order to make duties fit into routines. Thus, expertise is seen as a process (Bereiter and Scardamalia 1993, Scardamalia and Bereiter 1994, Lehmann and Norman 2005). Experts also have a deep and comprehensive understanding of the system in which they are working. They see the problem in its totality and not just one part of the problem (Bereiter and Scardamalia 1993).

Furthermore, expertise can be seen as an individual as well as a communal or societal level phenomenon (Bereiter and Scardamalia 1993). Bereiter and Scardamalia (1993) recognise teamwork as expertise that can be studied only at the group level, not the individual. To be able to argue that teamwork is a form of expertise, expert knowledge should be identified as the property of the group rather than the property of the individuals composing it. Engeström and Middleton (1996) see expertise as an ongoing collaborative and discursive construction of tasks, solutions, visions, breakdowns, and innovations. According to their view, expertise is dynamic and entirely collaborative by nature. On the other hand, in a study of distributed cognition in an airline cockpit, Hutchins and Klausen (1996) argue that in order to understand the performance of the cockpit as a system, the cognitive properties of the individuals have to be considered, although that is not enough. In their study, while the whole system consisted of the pilots and their informational environment, expertise could be seen as individuals using their skills and knowledge in interaction with each other and their informational environment. According to Tynjälä et al. (2003) today's expertise is characterised by experts working in collaborative teams in which they share their knowledge with other experts in their own and other domains. They also work in multi-professional networks. Thus, expertise can be understood in both

individual and group formats. Individual expertise develops as a result of expert knowledge, which will be considered next.

3.1.2. Expert knowledge

To understand expertise, it is vital to understand what expert knowledge is and how it comes about. Expert knowledge is often seen as a combination of three different types of knowledge: formal (declarative) knowledge, practical (procedural) knowledge, and metacognitive or self-regulatory knowledge (Bereiter and Scardamalia 1993, Katajavuori et al. 2006, Tynjälä 1999, van der Hejden 2000). Tynjälä (2010) adds sociocultural knowledge as a fourth dimension of this framework.

Formal knowledge can be loosely described as the knowledge that is found in textbooks (Bereiter and Scardamalia 1993). Formal knowledge forms the basis of expertise. This knowledge can be either a very concrete or an abstract or theoretical knowledge of some area (Tynjälä 2002).

Practical knowledge is acquired and developed in practice in situations where a certain expertise is needed. Tacit knowledge, an expert's hidden knowledge, is an example of this. According to Polanyi (1967), tacit knowing is "a way to know more than we can tell" (p. 18). He (ibid.) also argues that ". . . it is not by looking at things, but by dwelling in them, that we understand their joint meaning" (p. 18). In other words, an expert's practical knowledge consists of elements that the expert knows by his or her experience, but which he or she cannot necessarily explain to others. Skills can also be considered as forms of an expert's practical knowledge (Bereiter and Scardamalia 1993, Katajavuori et al. 2006). According to Le Maistre and Paré (2006), practical knowledge puts formal knowledge into practice and legitimizes the formal knowledge by applying it in real-life contexts. Practical knowledge is learned and developed in actual situations where a certain expertise is needed. Bereiter and Scardamalia (1993) argue that hidden knowledge most profoundly distinguishes experts from non-experts.

The definitions and terms concerning self-regulatory knowledge are ambiguous; theorists of adult education have discussed it in terms of reflective thinking, and theorists of student learning in terms of meta-cognitive skills (Tynjälä et al. 2003). Thus, there is no consensus about the hierarchy between meta-cognition and self-reflection. Some researchers consider them equal and others see differences between them. Metacognition can be described as knowledge of perception, memory and action (Metcalfe and Shimamura 1994). According to Tynjälä (2002), an expert's self-regulatory knowledge is related to the conscious and critical evaluation of one's his or her performance. However, Mezirow (1990) argues that critical reflection should mean reflection on one's own presuppositions, and not just reflection on performance guided by what has been learned before. According to Mezirow (1990), in critical reflection a person questions the validity of his or her presuppositions that underlie prior learning. A person becomes critically reflective by challenging the established definition of a problem being addressed. Thus, when thinking about expertise, understanding of one's own presuppositions is also likely to make the decision-making more transparent to the experts themselves: when aware of bias in thinking and understanding, a person can adjust his or her actions accordingly.

Formal, practical and self-regulatory knowledge are forms of individual or personal knowledge. However, the fourth element, sociocultural knowledge, is not individual knowledge, but rather it is knowledge that is included in social and cultural conventions and different tools and equipment. In a sense, sociocultural knowledge forms a framework for

expert knowledge. The only way to gain social knowledge is to participate in the functions of social communities (Tynjälä 2010).

Hence, expert knowledge consists of formal, practical, self-regulatory, and socio-cultural knowledge, and it forms the basis for expertise. In the following, ways to develop expertise will be discussed in more detail.

3.1.3. Developing expertise

According to Bereiter and Scardamalia (1993), the only essential factor of expertise is expert knowledge, but this does not necessarily make anyone an expert, because they regard expertise as a process. According to them, ". . . formal knowledge is converted into skill by being used to solve problems of procedure" (p. 66). Furthermore respectively, ". . . formal knowledge is converted into informal knowledge by being used to solve problems of understanding" (ibid., p. 66). In other words, expertise is not something that one could simply achieve and possess, but it also includes the actions of doing and learning. Tynjälä (2008) introduces integrative pedagogies as an approach in which the different elements of expert knowledge are combined. The main principle is to involve all these elements (formal, practical, self-regulatory, and sociocultural knowledge) and to combine them with each other through mediating tools, such as writing, discussions, collaborative learning, and mentoring.

As argued, an expert constantly expands his or her knowledge by addressing and solving new problems (Bereiter and Scardamalia 1993). Hence, acquiring expert knowledge entails working to some extent at the edge of one's competences, and thus tolerating the uncertainty and the strains that go with tackling unforeseen problems. A group can also have an expert-like career, if it continually works at the edge of its competence (Bereiter and Scardamalia 1993).

Tynjälä (2002, 2008) argues that in order to develop expertise in students, education should involve solving of real-life problems. She also suggests that real-life problems could be simulated in education, if 'genuine' experiences cannot be arranged. Furthermore, according to the concept of situated learning, it is essential to be socialised to the professional culture, when targeting a high level expertise. This means that the students should from the very beginning of their studies participate in the real-life conventions of their field, solve authentic problems and become acquainted with the experts' ways of thinking and working (Tynjälä 2002, 2008). When thinking of expertise as a societal level phenomenon, cooperative and collaborative learning are regarded as beneficial tools to create and improve shared expertise (Yazici 2004). Furthermore, Scardamalia and Bereiter (2003) introduce knowledge building as a tool to enhance the learning of both the community and the individual.

According to Tynjälä (1999), one of the keys to professional development is to make the hidden knowledge visible, which paves the way for critical reflection and transformation. Schön (1983) also considers reflective practice as one of the core elements of expertise. Although cognitive scientists emphasise that deliberate practice is vital when striving for expert performance, they also value the quality of the experience, and thus reflection and problem solving are considered important (Feltovich et al. 2006). Furthermore, as expert performance is regarded as quite domain-limited (see, e.g., Chi 2006) and thus poorly transferable to other domains, it is suggested that the teaching of specific knowledge should be supplemented with the teaching of transferable knowledge and skills. These may include strategies of learning and self-regulation(Gobet 2005).

In summary, expertise can be seen as a process that can be developed in social interaction through solving problems and by being involved with the practices of the domain of expertise. In addition, reflection and reflective skills are vital in order to advance self-regulatory and critical thinking skills. In this dissertation, drama and role-play are introduced as teaching methods that can convey many of the features needed in expertise development. In the following chapters, the concepts of drama in education and role-play will be discussed further.

3.2. Drama in education

3.2.1. The concept of drama in education

The vocabulary and definitions concerning drama in education vary according to the orientation of the researcher or the practitioner. Furthermore, there are numerous terms that have been used interchangeably with the term drama in education, such as drama education, drama pedagogy, developmental drama, creative dramatics, educational drama, informal drama, process drama, applied theatre, and applied drama (Andersen 2004, Ackroyd 2007, Eriksson 2009a). In this dissertation, the terms drama in education, drama education, educational drama, and drama are used interchangeably.

According to Somers (2008), the overarching concept that links the different forms of drama is the use of dramatic language as a medium of representation. Nicholson (2005) defines applied drama as a dramatic activity that exists primarily outside conventional mainstream theatre institutions. According to Bowell and Heap (2001), drama is a collective, social art form that is created by participants working collaboratively. O'Neill and Lambert (1991) define drama in education as a mode of learning. Andersen (2004) is quite close to this definition arguing that drama in education refers to the use of drama techniques to support learning in the classroom. Eriksson (2009a) defines drama pedagogy as "the deliberate application of dramatic means of expression and forms in education contexts to facilitate aesthetic experiences, knowledge and formation" (p. 23); furthermore, he states that formation is understood as "education for cultural and personal growth" (ibid.). Jackson (2002) sees drama in education nowadays as ". . . concerned with the exploration of themes and problems through role play and improvisation with emphasis upon developing the child's imagination, self-awareness and expressiveness and upon the social skills involved with group work" (p. 8). Furthermore, according to Owens and Barber (1997), drama seeks to promote individual thinking in the face of received opinion.

The process of educational drama is usually open-ended. The teacher can flexibly emphasise new objectives or directions of drama depending on the group and the situation (Bolton 2002). Drama conventions are ways of organising time, space and action to create meaning (Owens and Barber 2001). There is a wide range of different conventions, and the teacher's task is to choose those that suit both the learning objective and the level of the group.

The artistic objectives of drama are very often accentuated along with the pedagogic ones (e.g., Eriksson 2009b, Bolton 2002, Bowell and Heap 2001, O'Toole 1993). Especially in the Nordic countries, there have been heated debates about the balance between the artistic and educational objectives, although nowadays both objectives can be seen to co-exist in drama education (Eriksson 2009b).

According to Eriksson (2009b), at least four curriculum orientations (paradigms) for drama education have been in use in the Nordic countries: (1) the transmission model; (2) the development model; (3) the dialogue model, and (4) the critical model. Today, various combinations between these orientations co-exist and they all are still in operation. In the transmission model, acquired knowledge and skills as well transmission of essential values are in focus, and there are norms for evaluating content and form. The teacher is seen as an instructor. The development model is concerned with fostering individual growth, freedom, originality, and creativity, and the teacher is seen as a "gardener". The model is based on active participation and experiential growth, which has also been described with the slogan "learning-by-doing". In the dialogue model, the focus is on exploration for knowledge. The model is interactive, dialogue- and solution-based. It also has personal relevance and authenticity orientation. The teacher is seen as an equal participant with the student, and the method presupposes willingness between the subjects to reach understanding. The critical model focuses on social awareness and it is emancipatory by nature. The basic premise is dissatisfaction with the current situation–in education, society, politics, economics, science, and culture. However, there is also an optimistic faith in the possibility to change. In the critical model, the teacher is seen as a facilitator.

As discussed earlier, the concept of educational drama comprises the overarching idea of learning through an art form. In this dissertation, the terms drama and educational drama are used interchangeably, referring to an activity in which the students are active participants without pre-written scripts. Here, the drama process does not aim at producing any performance for an external audience, but the overall aim of drama workshops is to reach a multifaceted understanding of the theme in question and of one's personal stance towards it. Next, the theories of learning through drama will be considered in more detail.

3.2.2. Learning in drama

When considering learning in (or through) drama, the theoretical background derives from theories of experiential learning. However, experiential learning is a broad and heterogeneous concept (Fenwick 2000, Michelson 1999), and drama education is an independent discipline and field of research (see, e.g., Eriksson 2009b). The concept of constructive learning is also very often connected with drama. The learning potential of drama is generally seen as a combination of at least four factors: learning the theme (the substance); learning social skills; learning about oneself, and learning drama skills and drama as an art form (e.g., O'Neill and Lambert 1982/1990, Bolton 1993/2002, Laakso 2004). In his dissertation Laakso (2004) presented six areas of learning: learning the theme; professional learning; social learning; individual/personal learning; learning the form (of drama), and learning in an art form (arts-based learning). Here, the dimension of professional learning refers to the participant's learning about his or her future career as a drama teacher.

In drama, a person acts in both a role in a fictive world and as him- or herself in the real world. In drama literature, the term metaxis is used to describe this process of running two worlds simultaneously (Bolton 1985, O'Toole 1992, Owens and Barber 1997). In drama, when the participants act in roles and see the world through the role characters' eyes, they also have the opportunity to see the world from unconventional angles. This option to monitor events from two different points of view–from a role character's and from one's own–allows for significant learning (Asikainen 2003, Owens and Barber 1997). A role gives a person a shelter under which he or she can operate more freely. If participants had

been "enrolled" as themselves, their only option would be to behave the way they usually do in a certain situation (O'Toole 1993). It is easier to try new approaches or attitudes to a phenomenon, when the "actor" is not the person him- or herself but a role character (see for instance, Bowell and Heap 2001).

Drama requires a sense of playfulness, i.e., an atmosphere that enables doing and seeing things differently from what they really are, and where the normal rules of time, place and identity are laid aside (e.g., Heikkinen 2002, Somers 2008). In a fictive world, it is possible to create both entirely fictitious situations and situations that resemble real life. The participants may gain experiences and practise acting in different situations. They can also try different (or even alien) ways to behave, and at the same time observe both their own and other's reactions towards this behaviour. Being simultaneously aware of the fiction and the reality gives students the possibility to shift between emotional experience and analytic reflection (Østern 2007). According to Bolton (1985), the meaning of the drama lies in the interplay between these two worlds. An awareness of fiction also protects participants from drama experiences becoming too real or too emotionally close; educational drama can be made strange and different from the reality through distancing devices (e.g., metaphors). Besides protecting, this estrangement also aims at rousing curiosity and encourages participants to take a fresh look at an object or situation (Eriksson 2009a).

According to Jackson (2007), learning in drama happens when art work (i.e., drama) appeals to our imaginations and sensibilities and makes us active makers of meanings. In addition, Neelands (2004) argues that transformations (personal and social learning) are more likely to occur in artistic and pedagogic settings that are particularly intended to produce change. Owens (2005, 2006) introduces the concept of dissensus to describe the benefits of opposing opinions and fruitful dissent. According to Owens (ibid.), dissensus helps us see beyond those issues that have been taken for granted and thus the way is paved for deeper and more multifaceted understanding, personal growth and social change.

Experience is central to drama, but it alone is not enough for learning. Learning has to be reflected upon either during or after the drama. The experience has to be recognised and categorised (Bolton 2002, Asikainen 2003). In a reflection process, one recalls his or her experiences in a drama and gauges the emotional experience and the related event. The feelings attached to this experience have to be recalled and processed. The drama experience is evaluated against the learning targets, after which the learned matter can be attached to one's previous knowledge and related conceptual maps. Through this process of reflection, new perspectives can emerge, behavioural changes can happen, and a person's capability to apply the learned to new actions may increase (Asikainen 2003).

The proposition in this dissertation is that university education would benefit from using drama as an educational tool. The possibility to develop expertise through drama is highlighted. The proposed connections between the theories of expertise development and learning in drama are illustrated in Figures 1 and 2 in Chapter 3.6. As shown in Figure 1, drama encompasses the elements that are considered essential in expertise development, i.e., reflection, social interaction, and authentic problem solutions. In Figure 2, the three basic elements of expert knowledge, i.e., formal, practical, and self-regulatory knowledge, are linked with three different elements of learning in drama, i.e., learning of the substance, learning of social skills, and learning of oneself.

Besides highlighting the potential of drama as an educational tool, this dissertation also considers role-play as a worthwhile tool in higher education. Role-play is a form of simulation, and these concepts are discussed next.

3.3. Simulations and role-play

3.3.1. Simulation

The term *simulation* seems to be widely accepted as a larger concept that comprises several different activities. Here a very broad starting point could be Shirts' (1975) definition: simulation is "anything which simulates or models reality" (p. 76). According to many scholars, simulation has its roots in behaviourism and can be categorized under behavioural learning theories (Arends and Castle 2003, O'Toole 1992). However, in some forms of simulation the approach to learning can also be consistent with constructivist learning (see e.g., Antonacci and Modaress 2008).

    The definitions of different types of simulations, such as educational simulations, role-plays, and games, are far from unambiguous. These different concepts have been used to cover a wide range of experiential teaching methods, and they overlap (Feinstein et al. 2002, Sauvé et al. 2007, Lean et al. 2006; see also, Crookall 2010). Although some authors (e.g., Shu 1989) argue that the differences between games, simulations, and role-plays are minimal and can thus be overlooked, there are several scholars who make a clear distinction between these different types of simulation.

    Feinstein et al. (2002) argue that role playing, gaming and computer simulation should be defined as separate activities in order to evaluate their effectiveness as teaching methodologies individually. Sauvé et al. (2007) distinguish between educational game and educational simulation by identifying the essential attributes of both these activities. According to them, the essential attributes of *educational games* are: player or players, conflict, rules, predetermined goal of the game, its artificial nature, and its educational character. When discussing *educational simulation*, Sauvé et al. (2007) identify five attributes: a model of reality defined as a system; a dynamic model; a simplified model; a model with fidelity, accuracy and validity, and focus on the learning objectives. Furthermore, many scholars highlight the importance of debriefing (i.e., reflection) in turning simulations into learning (e.g., Crookal 2010, Sutcliffe 2002, van Ments 1999). In their typology of simulation-based learning approaches, Lean et al. (2006) choose to use the term "simulation game" as the main term. They divide simulation games into computer-based and non-computer-based activities. According to them, the computer-based simulation games include gaming simulations, training simulations, and modelling simulations, whereas non-computer-based simulations include role-play and educational games. Role-plays are further divided into interactive and non-interactive role-plays, and the educational games into field, paper-based, card, and board games (Lean et al. 2006).

3.3.2. Role-play

As with the simulation, no unambiguous definition for role-plays can be found. According to Hsu (1989), in a role-play the participant assumes a prescribed role in a particular situation. According to Feinstein el al. (2002), in a role-play the participant acts out the role of a character or part in a particular situation following a set of rules that defines the situation and interacts with others who are also role playing. In the context of drama education, role playing has been defined as "participating through using attitudes, stereotypes or given and predetermined points of view" (Ministry of Education, New Zealand 2010). Similarly, O'Toole (1992) argues that in general, in simulation the roles and the learning outcomes are considered to be more predefined than in applied drama. These

views stress the predetermined and somewhat restricted structure of role-playing. However, in simulation literature, there are descriptions of a fairly wide spectrum of role-plays. A role-play can be fully scripted (all participants act from verbatim scripts), partially scripted (all or some participants have certain prompts–often an opening line), or a free-form role-play (all participants are expected to act as they think, given the situation, that a person would behave as a result of what is going on around them) (Nestel and Tierney 2007, Sutcliffe 2002, Alden 1999). Based on the works of Shaw et al. (1980) and Wohlking and Gill (1980), van Ments (1999) introduces a structured/method-centred approach and an unstructured/developmental approach as the two basic role-play techniques. The structured/method-centred approach aims at furthering the participants' skills in specific procedures, methods or techniques. The underlying assumption is that there are certain right steps to follow and the whole exercise can be repeated several times in order to learn the right procedures. The unstructured/developmental approach concentrates more on learning attitudes and motivations, and it considers fairly complex situations. This approach can be regarded as a process of integrating and applying learning from various sources, including the participant's own background knowledge and experience. The teacher acts as a facilitator, who does not give the "correct" answers or ways to behave. (van Ments, 1999).

Like Hsu, some scholars stress the importance of detailed character descriptions (e.g., Alden 1999, Sutcliffe 2002), while other scholars also see the benefits in looser role-play settings (e.g., van Ments 1996, Tomkins 1998, Maier 2002). Furthermore, Maier (2002) argues that the role-playing structures and the depth of descriptions should depend on the learning objectives. Van Ments (1996) claims that it is not essential to give much detail about the characters involved, but that it is more advisable and educationally more justifiable "to give details of the background facts, some information of the current situation, and some details about how that situation will or could affect the particular character that the person is playing" (p. 133). The attitudes and characterization of the role are then likely to grow out this factual background (van Ments 1996). In any case, because of the more or less improvisational nature of role-playing, the outcome cannot be controlled as well as in some other forms of simulations, e.g., computer simulations or games. Hence, Feinstein et al. (2002) even argues that, as a form of a simulation, role-playing faces problems because the participants receive feedback from other participants, regardless of whether this feedback is consistent with the situation in real life or not. According to Shirts (1975), role-playing has been regarded as a "lower-class cousin" in the larger family of simulations.

Hsu (1989) argues that the objective of role-playing is to give participants the opportunity to feel what is at stake in the situation, and it is hoped that they will "gain a greater understanding of the roles and relationships as well as a better awareness of their own activities" (p. 409). Hsu also refers to Moreno's work with psychodrama as the beginning of the use of role-play as a "vehicle for extending research into human behaviour in varied learning environments" (p. 409). Further, according to Feinstein et al. (2002), role-playing "allows participants to get an in-depth understanding of many of the social interactions that arise when evaluating or solving a problem" (p. 735). Feinstein et al. (ibid.) thus appreciate role-playing as a good method to develop interpersonal and/or team skills. On the other hand, Maier (2002) lists three possible learning objectives for role-playing: having an impact on a person's emotional (affective) status, enhancing each individual's skills, and expanding the person's knowledge base (information and cognition).

Just as there can be learning in drama, there can be learning in higher education when role-play is used as an educational tool. The opportunity to develop expertise through role-

play is accentuated in this dissertation. The proposed connections between the theories of expertise development and role-play are illustrated in Figures 1 and 3 in Chapter 3.6. As shown in Figure 1, role-play functions through elements that are considered essential in expertise development, i.e., reflection, social interaction, and the solution of authentic problems. In Figure 3, the three basic elements of expert knowledge, i.e., formal, practical, and self-regulatory knowledge, are linked with the earlier discussed five elements of learning in role-play: expanding of one's knowledge base, understanding of social interactions, enhancing one's skills, becoming aware of one's own activities, and becoming aware of evoked emotions.

3.4. Work-based learning

In the previous chapters, drama and role-play were introduced as potential tools to enhance expertise development in higher education. These two teaching methods were discussed as alternatives to genuine working-life experiences. In order to realise the strengths and weaknesses of drama and role-play as alternatives to work-based learning, it is necessary to also understand the essence of work-based learning. Therefore, the following chapters concentrate on the different aspects of work-based learning.

3.4.1. Characteristics of work-based learning

There are several different definitions of the concept of work-based learning. Trigwell and Reid (1998) identify four forms of work-based learning: (1) learner-managed, learner-led work-based education; (2) workplace-based education; (3) education involving work placement, and (4) practice-based education. On the other hand, Boud et al. (2001) introduce the concept of work-based learning as a university programme that brings together universities and work organizations to create new learning opportunities in workplaces.

Many scholars consider workplaces and employees learning at work as a vital element in work-based (or work-related) learning (e.g., Boud et al. 2001, Boud 2001b, Illeris 2004, Tynjälä, 2008, Markowitsch and Messerer, 2006). However, problem-based learning (PBL), case-based learning and project-based learning are examples of pedagogical solutions that aim at giving students experience of authentic problems and procedures in working life (Tynjälä 2008).

3.4.2. The sources of learning and outcomes of work-based learning

Based on the works of Hager (1998) and Resnick (1987), Tynjälä (2008) summarises the differences between learning in formal education and the more informal learning in the workplace. Informal workplace learning is usually unplanned, contextualised and collaborative, and it produces implicit and tacit knowledge and situation-specific competencies, whereas learning at school and in organised on-the-job training is often planned, uncontextualised and individual; the learning outcomes are more predictable, and it produces explicit knowledge and generalised skills.

Based on several recent studies, Tynjälä (2008) summarises the answer to the question of *how* people learn at work as follows: (1) by doing the job itself; (2) through co-operating and interacting with colleagues; (3) through working with clients; (4) by tackling

challenging and new tasks; (5) by reflecting on and evaluating their work experiences; (5) through formal education, and (6) through extra-work contexts. Tynjälä (2008) also points out that interaction between novices and experts is of crucial importance in workplace learning.

In his study of early career learning, Eraut (2007) identified three different sources of learning, which are presented in Table 1. In the same study, as important learning factors Eraut (ibid.) mentions the challenge and value of the work; feedback and support; confidence and commitment; and personal agency. Kyndt et al. (2009) also highlight the value of feedback as one of the factors that contributes the most to workplace learning. In addition, Boud (2001a) stresses the importance of feedback as a basis of enhancing the learners' skills of discernment and critical reflection in a workplace setting.

Eraut et al. (2004; see also, Eraut 2004) present a typology of *what* is being learned in the workplace: (1) task performance; (2) awareness and understanding; (3) personal development; (4) teamwork; (5) role performance; (6) academic knowledge and skills; (7) decision making and problem solving, and (8) judgment. However, the author points out that, although presented in the form of a typology, the list is rather a heuristic tool to remind the learner of possible aspects of learning in their own context. This typology can be completed with the findings of Boud and Middleton (2003) indicating that regardless of the working field, mastery of organisational processes, negotiating the political, and dealing with the atypical seem to be significant areas of informal learning.

Table 1. A typology of early career learning

Work Processes *with learning as by-product*	**Learning Activities** *located within work or learning processes*	**Learning Processes** *at or near the workplace*
Participation in group processes	Asking questions	Being supervised
Working alongside others	Getting information	Being coached
Consultation	Locating resource people	Being mentored
Tackling challenging tasks and roles	Listening and observing	Shadowing
Problem solving	Reflecting	Visiting other sites
Trying things out	Learning from mistakes	Conferences
Consolidating, extending and refining skills	Giving and receiving feedback	Short courses
Working with clients	Use of mediating artefacts	Working for a qualification
		Independent study

Source: Eraut 2007

Boud (2001b) argues that for the most part, work-based learning programmes equip students "to be continuing learners and productive workers through engagement with tasks that extend and challenge them, taking them beyond their existing knowledge and expertise" (p. 38). Students also learn to cope with the unknown.

Based on recent studies of project-based studying, Helle, Tynjälä and Vesterinen (2006) summarise that learning outcomes reported by students seem to be fairly similar in spite of the different ways of implementing the projects or the different domains. The students involved in these studies considered that they had learned, in addition to domain-specific skills, skills in cooperation, oral and written communication resource management, self-management and self-regulation, and social interaction. Further, in at least one study, students had also reported having gained professional self-confidence or improved their self-concepts. On the other hand, in a study by Helle, Tuominen and Olkinuora (2006), the students had had difficulties in articulating any learning in terms of the course objectives. Thus, although it seems to be a promising method, it seems that work-based learning does not guarantee learning.

In general, it appears that students experience project-based learning as a challenging, meaningful and motivating activity (Helle, Tynjälä and Vesterinen 2006, Vesterinen 2001, Helle et al. 2007). Helle, Tynjälä and Vesterinen (2006) argue that the work-related element of project-based learning seems to add a particular motivational element to learning. By being connected to an authentic working life activity, the students can not only get a glimpse of working life, but get a sense of actually contributing to the "real world" (Helle, Tynjälä and Vesterinen 2006).

3.4.3 Challenges in work-based learning

Some challenges to work-based and workplace learning have also been reported. According to Boud (2001b), a distinct challenge for the work-based curriculum is the danger of maintaining the learners' understanding within their own work settings. The learners' understandings and working knowledge may thus become over-localized and limited to the present and the particular. There may also be a conflict between the roles of an employee and a student, and between the types of knowledge generated in workplaces and those generated in universities (Boud 2001b).

Furthermore, not only are there differences between the role of employee and student, employers' expectations and interests are likely to differ from those of teachers and students–and these may be different than those of regular employees (Tynjälä et al. 2003). It is thus argued that there is a need to examine the kinds of problems and conflicts that may arise between different partners and stakeholders, and also to find appropriate ways of linking with employers without compromising the independence of or support for students (Tynjälä et al. 2003, Marshall and Cooper 2001, Helle, Tynjälä and Vesterinen 2006).

The amount and quality of support given to students in their learning varies between different workplaces, and the learners may need more guidance and feedback from their supervisors than has been available (Tynjälä 2008, Marshall and Cooper 2001). On the other hand, sometimes the learners themselves may be reluctant to ask for support or feedback from their workplace supervisors, because they do not want show their "ignorance" in their workplace (Boud 2001a; see also, Boud and Middleton 2003). Tynjälä (2008) argues that one of the greatest challenges facing educational institutions and teachers is the training and coaching of workplace trainers. This does not, however, diminish the role of teachers. They are in the first place in charge of the pedagogical design of the curriculum

and they enable the integration of theory and practice; their role in student assessment is also still very important (Tynjälä 2008).

In some forms of work-based learning, there seems to be a lack of peer learning. For instance, in the book *Work-based learning: A new higher education* (Boud and Solomon 2001), learners are mostly seen as employees who have individually negotiated study plans and they may be alone as students in their workplaces. However, according to Boud (2001a) and Siebert et al. (2009), informal learning and support from peer students would be of great importance even in work-based learning. On the other hand, in some other forms of work-based learning (e.g., project-based studies, practice-oriented methods), peer learning is in a central role, and students have perceived such elements as support from their peers, accountability to other members of the group, a sense of belonging, and working towards a common goal as important features of the learning method (e.g., Helle et al. 2007, Markowitsch and Messerer 2006, Vesterinen 2001).

In this dissertation, it is proposed that in role-play students can achieve several of the same learning outcomes as in work-based learning. The connection between these two concepts is illustrated through the elements of expert knowledge in Figures 1 and 3 in Chapter 3.6. Figure 1 shows that work-based (workplace) learning deploys the same elements that are considered essential in expertise development, i.e., reflection, social interaction, and authentic problem solution. Regarding Figure 3, it is worth noting that sociocultural knowledge can be achieved through workplace learning only. However, all three elements of individual expert knowledge, i.e., formal, practical, and self-regulatory knowledge, are linked with the elements of both work-based learning and role-play. In addition, as shown in Figure 2, all the elements of individual expert knowledge are also linked with the elements of learning in drama.

3.5. Learning journals and reflection

3.5.1. Reflection and critical reflection

In expertise development (Schön, 1983, Tynjälä 1999, Feltovich et al. 2006), as well as in learning through drama (Bolton 2002, Asikainen 2003) and learning through simulation (Crookall 2010), reflection is considered to be a crucial element for learning. Although reflection is very widely regarded as essential, there is no common understanding about the exact definition of the concept. Many scholars refer to Dewey (1933) as the key originator of the concept of reflection and its importance for learning (e.g., Dyment and O'Connel 2011, Moon 1999, Hatton and Smith 1995, Hubbs and Brand 2005), and his work has over the years been expanded upon by such academics as Schön (1983), Kolb (1984), and Boud, Keogh and Walker (1985) (Dyment and O'Connel 2011, Reynolds 1999, Moon 1999).

In the context of learning, Boud et al. (1985) define reflection as "a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations" (p. 19). Hence, Boud et al. (ibid.) take into account emotions along with the intellect when engaging in reflective activities. Furthermore, Mälkki (2011) argues that reflection is by nature inherently inseparable from emotions; furthermore, she adds a social dimension to reflection. Moon (1999) defines reflection as "a form of mental processing with a purpose and/or anticipated outcome that is applied to relatively complex or unstructured ideas for which there is not an obvious solution" (p. 23). According to Boud (2001c), "Reflection involves taking the

unprocessed, raw material of experience and engaging with it as a way to make sense of what has occurred. It involves exploring often messy and confused events and focusing on the thoughts and emotions that accompany them" (p. 10). In other words, both Moon (1999) and Boud (2001c) regard reflection as a tool that can be used to make sense of and give meaning to unstructured and complex ideas or experiences.

Bourner (2003) and Boud (2001c) argue that in reflective learning, the target of reflection is to turn experience into meaningful learning. According to Boud (2001c), within a course, reflection can focus on particular activities during the course (e.g., workshop activities), past events (e.g., what students bring to the course from prior experience), or activities that happen concurrently with the course and act as a stimulus for learning (e.g., events in other courses or in the learners' workplaces and community). According to Bourner (2003) the most important element is not what the student experiences, but what the student does with that experience.

Critical reflection is often referred to as the deepest form of reflection, which is also sought after in higher education (Dyment and O'Connel 2011). According to Mezirow (1990), "Critical reflection is not concerned with the how or the how-to of action but with the why, the reasons for and consequences of what we do" (p. 13). Mezirow (1991) also includes underlying premises as targets for reflection, when he considers reflection as, "the process of critically assessing the content, process or premise(s) of our efforts to interpret and give meaning to an experience" (p. 104).

Another view of critical reflection is to see it as an activity that addresses wider societal premises. Hatton and Smith (1995) argue that critical reflection can be identified as the process of consciously taking into account wider historic, cultural and political values or beliefs in framing and reframing practical problems to which solutions are sought through reflection. According to Reynolds (1998), "While reflection focuses on the immediate, presenting details of a task or problem, critical reflection involves an analysis of power and control and an examination of the taken-for-granteds within which the task or problem is situated" (p.189). Reynolds also (1998, 1999) highlights the view that all generalised observations and prescriptions on society and social behaviour are partial and thus cannot be treated as neutral.

3.5.2. Reflection in learning journals

It is widely argued that, at its best, journal writing can lead to deep reflection and help identify and evaluate a student's underlying values (Kember et al. 1996, Walker 1985, Bain et al. 2002). However, although there are a number of studies concerning the quality of reflection in learning journals, and several different models or theoretical frameworks have been used to assess the levels of reflection, there seems to be little agreement among the researchers on how to best assess the quality of reflection learning journals (Dyment and O'Connell 2011). The findings are also mixed depending on the study. The detected levels of reflection vary from mostly descriptive and non-reflective, to mostly highly reflective (ibid.). Hence, it is not self-evident that journal writing automatically produces deep reflection.

Hubbs and Brand (2005) claim that students often begin with more superficial writing in their early journal entries, but with practice and encouragement, they eventually produce deeper reflections. On the other hand, Nückles et al. (2004) argue that although learning journals are ideal for the application of cognitive and metacognitive strategies, university students typically do not show such strategies on a satisfactory level without instructional

support. In general, it is a fairly common view that the quality of reflection can be enhanced by introducing different type of structures, learning and teaching strategies, and prompts prior to journal writing (Moon 1999, 2009, Nückles et al. 2004, Hübner et al. 2010, Carson and Fisher 2006). To help students begin reflective journaling, Moon (1999) suggests that they can be given examples of journal headings, questions, theoretical frameworks, and examples of well-constructed journals. Furthermore, to deepen learning during the process of journal writing, Moon (ibid.) suggests introducing prompting questions and asking the students to reread and reflect on their earlier journal entries. Steps can also be taken to facilitate peer support, and encourage self- and peer assessment in the use of learning journals as tools for development. However, a study by Nückles et al. (2010) indicates that although prompting questions support journal writing when the students are unfamiliar with the learning journal method, in the long run constant prompts may even decrease the students' learning outcomes and their invested efforts and interest in learning journal writing. Fenwick (2001) stresses the value of feedback (or "responding") as a mean to enhance the learning process and to help create a transformative journal writing experience. According to her, there are at least three possible responders available: a learner's peers, a supervisor or facilitator of learning, and the learner him- or herself. Mezirow (1990) claims that being exposed to different perspectives may initiate a process of critical reflection that highlights an individual's own point of view and, if needed, sometimes leads to perspective transformations. This view agrees with several scholars' views of the benefits of interaction in journal writing in order to enhance reflection (e.g., Moon 1999, Fenwick 2001, Hiemstra 2001).

3.6. Conclusive summary

As argued in the previous chapters, expertise can be regarded as an on-going process that develops in social interaction through problem solving and reflection. Because the same elements, problem-solving, social interaction and reflection are present in learning through drama, role-play and work-based learning, I suggest that these learning methods can be used as vehicles to promote expertise. This proposition is illustrated in Figure 1. In the educational settings of the sub-studies, the main method of reflection was writing of learning journals, which was always preceded by reflective in-class discussions.

Based on the theories of expert knowledge and learning in drama, role-play, and the workplace, certain connections between the learning methods and expert knowledge development can be proposed and are shown in Figure 2 and Figure 3.

Here, Figure 1 refers to expertise as a process, while Figures 2 and 3 refer to an individual's expert knowledge that can be developed through drama, role-play or workplace learning. As shown in Figure 2, learning in drama covers all the other elements of expert knowledge besides socio-cultural knowledge. On the other hand, the fourth element of learning in drama, i.e., learning in an art form, seems to be omitted.

Respectively, the proposed connections between the elements of expert knowledge and the learning potential of role-play and the learning potential of workplace learning are illustrated in Figure 3.

It is worth noting that sociocultural knowledge can only be developed through participating in social communities in practice (Tynjälä 2010). Thus, it can be reached through workplace learning only, where the experience is converted into learning through reflection.
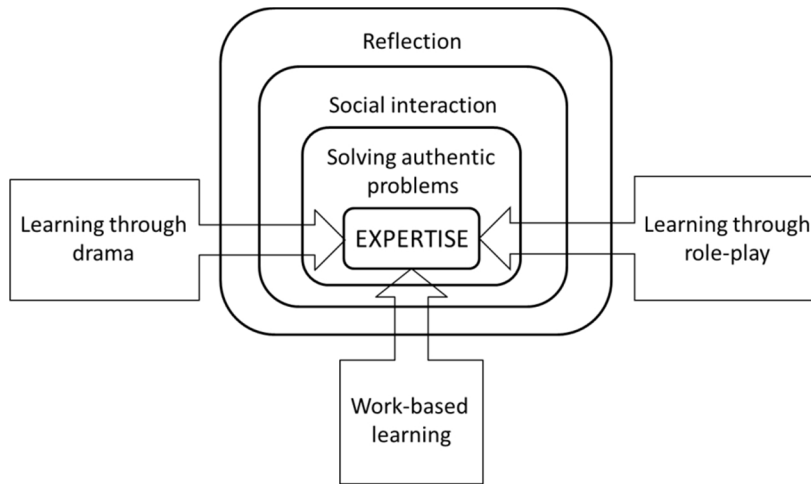
Figure 1. Drama, role-play and work-based learning as potential vehicles to develop expertise through the process of problem solving, social interaction and reflection
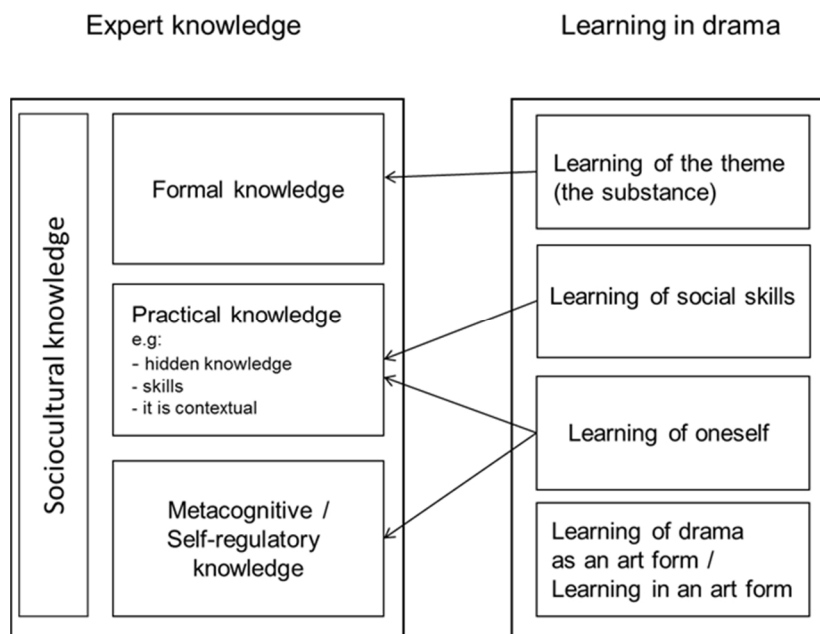
Figure 2. Proposed theoretical connections between the concepts of expert knowledge and learning in drama. Kettula, based on Bereiter & Scardamalia 1993, Tynjälä 1999, 2010, O'Neill & Lambert 1982, Bolton 1993

Learning in the workplace   Expert knowledge   Learning in role-play

| Academic knowledge and skills |
| Role performance |
| Team work |
| Task performance |
| Decision making and problem solving |
| Awareness and understanding |
| Judgement |
| Personal development |

Sociocultural knowledge

| Formal knowledge |
| Practical knowledge |
| Metacognitive / Self-regulatory knowledge |

| Expanding knowledge base |
| Understanding of social interactions |
| Enhancing skills |
| Awareness of own activities |
| Awareness of evoked emotions |

Figure 3. Proposed theoretical connections between the concepts of expert knowledge, learning in role-play and learning in the workplace. Kettula, based on Eraut 2004, Bereiter & Scardamalia 1993, Tynjälä 1999, 2010, Hsu 1989, Feinstein et al. 2002, Maier 2002

4. METHOD

In this chapter, I shall first explain my underlying research philosophy (chapter 4.1.), and then introduce the basic principles of the mixed method approach (chapter 4.2.). The methodological choices of the individual sub-studies are summarised in chapter 4.3., followed by overviews of the types of research material (chapter 4.4.) and of the drama and role-play approaches applied in the sub-studies (chapter 4.5.). Chapters 4.6.–4.9. include a detailed description of the applied method in each of the Studies I, II, III and IV. Chapter 4.10 summarises the mixed methods research approach in this dissertation.

4.1. Underlying research philosophy

Guba and Lincoln (1994) claim that the researcher's worldview (paradigm) and her understanding of the reality (ontology) and conception of knowledge (epistemology) guide the whole research process. These have an effect on the formulation of research questions as well on the choices of methods of research and analysis. According to Guba and Lincoln (ibid.), paradigms are "basic belief systems based on ontological, epistemological, and

methodological assumptions" (p. 107), and by adopting a certain paradigm a person also adopts the assumptions inherent in it (ibid.). However, there are also views that an adopted ontological stance does not necessarily determine the person's epistemological beliefs (see, e.g., Puolimatka 2002, Heikkinen et al. 2005, Niglas 2007). Furthermore, Niglas (2007) argues that philosophical traditions (paradigms) may overlap and that there is a mutual influence between paradigms. She (ibid.) also claims that, instead of the philosophical position of the researcher, it is the concrete research problem or aim that determines the research design (or overall strategy). In addition, in mixed methods research the so called dialectic stance appreciates the benefits of multiple paradigms in research (Greene and Caracelli 2003; see also chapter 4.2).

The definitions of different paradigms are far from clear, and there are several schools and orientations in each of them. My worldview and thus also this dissertation has been influenced by two main paradigms: post-positivism and constructivism. In post-positivism, the ontological beliefs can be categorized as critical realism and in constructivism as relativism (Guba and Lincoln 1994). Critical realism assumes that there is a "real" reality, and information can be obtained about it, but the information is incomplete and fallible. Relativism, on the other hand, assumes that the reality is always constructed and that no mind-independent world exists (Guba and Lincoln 1994, Niiniluoto 1999, Puolimatka 2002). The starting point for my worldview is critical realism based on the assumption that a mind-independent world does exist—regardless of anyone's awareness or unawareness of it. However, in terms of the reality in which people live, my ontological assumptions are relativistic, and thus they fall under constructivism. According to my view, reality is constructed to each individual person in a socially and psychologically different way, depending on time, place, language, culture and the persons' earlier conceptions and experiences (Heikkinen et al. 2005). In addition, when I am teaching through an art form such as drama, I accept the principles of art education. According to Varto (2009, p. 144), "There is no such thing as a standard human being, and through that, a state of normality towards which art education would guide". Varto (ibid.) also argues that art education does not resemble practices that aim at integration and socialisation. For me, this means that essentially drama is not about delivering my or my institute's objectives, attitudes or worldview, but rather its aim is to help the student to become more aware of his or her own angle on the topics in question.

My epistemological beliefs (i.e., beliefs of how and what information can be acquired) are again close to constructivism. First, I believe that a researcher and the object of investigation are interactively linked and that the researcher as a human being cannot be totally objective (see Guba and Lincoln 1994). Thus, all knowledge is more or less subjective. However, I nevertheless see the researcher's objectivity as a goal in research, and there my epistemological beliefs are close to critical realism (ibid.). Second, constructivism is a large concept that comprises several diverse views. According to Tynjälä (1999), common to these different stances is that acquisition of knowledge is portrayed as a building process. During this process, knowledge is actively constructed either individually or in social contexts, and knowledge cannot thus be passively received. My views as a teacher and a researcher have been influenced by both social constructionism and individual constructivism. In social constructionism, the social, dialogical and collaborative processes are highlighted, while in individual constructivism the emphasis is on a person's individual knowledge construction. The educational settings used in this dissertation, drama and role-play, are based on social constructionism. However,

the individual learning journals written after the drama or role-play sessions also reflect individual constructivism.

The methodological choices in this dissertation reflect both critical realism and constructivism. Critical realism emphasises "critical multiplism" that can be operationalised through the use of several different research methods in order to detect possible flaws in the hypotheses and to get closer to the "truth". Triangulation can be seen as one example of this mindset. On the other hand, in constructivism it is typical to look for interpretations of reality and gain more understanding of the investigated phenomena (Guba and Lincoln 1994, Heikkinen et al. 2005).

According to Varto (ibid.), there can be a conflict between art education and educational research because, "Standards and goals of normality are intrinsic to the points of departure of research in education and social sciences . . . " (p. 144). Thus, Varto (ibid.) argues that these points of departure have to be clearly articulated, which I do in the following. I recognise this risk of conflict concerning drama as an educational tool and as a research object. In this dissertation, the research and analyses are mainly based on pre-decided propositions (see, e.g., Chapter 3.6.), and I have tried to determine whether through drama some particular educational objectives can be reached. Hence, here my research approach includes some pre-ordained standards. However, as I have argued earlier, when teaching through drama, my ultimate objective is to help students to become aware of their own viewpoints regarding the topics of my teaching, and this teaching approach does not aim at any standardised goals of normality.

There are divergent views concerning the linkages between research paradigms and the different research methodologies (qualitative and quantitative). According to Teddlie and Tashakkori (2011), post-positivism is associated with quantitative research and constructivism with the qualitative research, but Guba and Lincoln (1994) see qualitative methods as fitting in critical realism (i.e., post-positivism), as well. In this dissertation, multiple methods have been applied in order to gain a deeper and richer understanding of the phenomena, but at the same time they have also served as means of triangulation, i.e., as tools to assess the validity of the research.

The notion that my ontological and epistemological beliefs stem from two different paradigms—post-positivism (critical realism) and constructivism—is a logical basis for the choice of the research methodology: in mixed methods research, different paradigms and research methodologies (qualitative and quantitative) are accepted as complementary.

4.2. Definitions and basic principles of mixed methods research

This dissertation is based on four separate case studies (sub-studies) (see e.g., Yin 2003), and it deploys three different sources of empirical data: learning journals, a survey, and a focus group interview. By nature, learning journals and interviews can be categorised as qualitative material (e.g., Denzin and Lincoln 2011) and surveys as quantitative material (e.g., Yin 2003). Hence, because this dissertation—and even the single sub-studies—includes both qualitative and quantitative research data, the adopted research design is a mixed methods research design. There have been numerous philosophical debates about whether mixed methods research is possible in the first place, because it mixes qualitative and quantitative approaches and worldviews or paradigms (see e.g., Creswell 2011). While this paradigm debate still continues, some mixed methods scholars have moved on to discuss the possibility of using multiple paradigms in one research project, arguing that the

dialectic between opposing ideas can contribute to new insights and understandings (Greene and Caracelli 2003; see also, Creswell 2011, 2009). According to Greene and Caracelli (2003), ". . . to think dialectically is to invite the juxtaposition of opposed or contradictory ideas, to interact with the tensions invoked by these contesting arguments, or the engage in the play of ideas" (pp. 96-97). In the dialectic stance, all paradigms are considered valuable and they have something to contribute to understanding, i.e., the use of multiple methods leads to better understandings.

Another evolving stance in the field advocates mixed methods research as a new major research paradigm along with qualitative research and quantitative research. In this stance the primary philosophical background is pragmatism (Johnson et al. 2007, Onwuegbuzie et al. 2009). Teddlie and Tashakkori (2011) argue that there will be a gradual acceptance of pragmatism as the primary philosophical orientation associated with mixed methods research, in the same ways as constructivism is associated with qualitative research and post -positivism with quantitative research.

Mixed methods research is an emerging field, and there has been inconsistency in the manner in which certain terms have been defined (Leech and Owuegbuzie 2009, Creswell 2011, Teddlie and Tashakkori 2003). Such concepts as multimethod design, multiple method design, multimethod research, mixed- methods design, mixed method research and mixed-model research have been used to cover the area. Teddlie and Tashakkori (2003) distinguish between multimethod and mixed methods designs by defining multimethod designs as those that compass more than one method, but are restricted to either qualitative or quantitative methodology, while mixed methods designs use both qualitative and quantitative data collection procedures or research methods. Morse (2003), on the other hand, refers to multimethod design as a research programme in which qualitative and quantitative projects are conducted rigorously but separately, and the results are then triangulated to form a comprehensive whole.

According to Morse (2003), mixed method design is, ". . . the incorporation of various qualitative or quantitative strategies within a single project that may have either a qualitative or a quantitative theoretical drive. The 'imported' strategies are supplemental to the major or core method and serve to enlighten or provide clues that are followed up within the core method" (p. 190). Based on several different definitions, Johnson et al. (2007) define mixed methods research as "type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration" (p. 123). Furthermore, Johnson et al. (ibid.) broaden the concept to encompass mixed method programmes instead of only focusing on mixing methods in one single study. Similarly, Leech and Onwuegbuzie (2009) argue that mixed methods research may involve either a single study or a series of studies that investigates the same underlying phenomenon.

The concept of cross-over mixed analysis involves the use of one or more analysis types from one tradition (e.g., quantitative analysis) to analyse data associated with a different tradition (e.g., qualitative data) (Onwuegbuzie et al. 2009). The cross-over mixed analyses strategies include data transformation in which qualitative data is converted into numerical codes that can be analysed statistically (i.e., quantitising data) and/or quantitative data is converted into narratives or other types of data that can be analysed qualitatively (i.e., qualitising data) (ibid.).

Based on a literature review on different mixed research designs, Leech and Onwuegbuzie (2009) conceptualise that mixed research designs can be represented as a

function of three dimensions: (1) a level of mixing (partially mixed versus fully mixed); (2) time orientation (quantitative and qualitative phases occur concurrently versus sequentially), and (3) emphasis on qualitative and quantitative approaches (equal status versus dominant status). In other words, while Morse (2003) stresses the choice of one core method, Leech and Onwuegbuzie (2009) acknowledge both equal- and dominant-status research approaches. The typology developed by Greene et al. (1989) offers five purposes for mixing research approaches: triangulation (convergence, corroboration and correspondence of results); complementarity (elaboration, enhancement, illustration and clarification of the results); development (the use of the results from one method to help develop or inform another method); initiation (discovery of paradox and contradiction, new perspectives on frameworks, and the recasting of questions or results from one method with questions or results from another method), and expansion (extension of the breadth and range of inquiry by using different methods for different inquiry components).

In this dissertation, the main reasons for using mixed methods research design are to extend the breadth of the research and to allow triangulation. Cross-over mixed analysis is used in Study IV. Following Leech and Onwuegbuzie's (2009) categorisation, this dissertation deploys a partially mixed, dominant-status research approach, in which, depending on the sub-study, the quantitative and qualitative phases occur either concurrently (Study II) or sequentially (Study IV). The emphasis is on qualitative approaches (see Figure 4). The mixed methods approach used in this dissertation is explained in more detail in Chapter 4.10., preceded by the following overviews of the individual sub-studies.

4.3. Sub-studies in a nutshell

As explained in Chapter 2, the overall objective of this dissertation is to investigate the potential of educational drama and role-play in the higher education context, especially in the field of forest economics and marketing. Therefore, the educational settings (courses) included in this dissertation were chosen based on their teaching methods, i.e., drama or role-play, and the students' major, i.e., forest economics and marketing (including forest policy). In order to allow larger target groups, in Study I (Ethics course) and Study II, students of forest ecology were also included in the target groups. Similarly, a group of international forestry professionals were included in the target group in Study I (Policy course). Although they are not part of the forest economics and marketing study programme, these other participants (students of forest ecology and forestry professionals) are from the field of forest sciences. In order to gain a larger pool of learning journal entries as research data, enable more variation in target groups, and to have opportunities for cultural comparisons, Australian business students formed part of the target group in Study IV. Australian students were chosen, because the courses in Sydney and Helsinki were taught by the same Ethics teacher, and the contents of the courses and the guidelines for the learning journals were the same in both countries.

In all Studies except Study I, I was co-teaching with another teacher, who was responsible for the objectives and substance of the course. Although I was responsible for planning and facilitating all the drama and role-play workshops, I worked in close cooperation with the subject matter teachers. I also coached the subject matter teachers in their roles in the actual workshops. At the beginning and during the workshops, I led the students step-by-step to the drama and role-play.

In the following, the objectives, educational settings, sources of data, and analyses of the individual sub-studies are summarised.

Study I

<u>Objectives</u>
- To determine whether drama as an educational tool can further professional development.
    - by enhancing students' self-knowledge and
    - by enhancing awareness and understanding of different perspectives.
- To examine elements in a drama workshop that may trigger either self-knowledge or awareness of different viewpoints.

<u>Educational settings and participants</u>
- Course "Ethics and Social Responsiblility in the Forest Sector" (Department of Forest Economics, University of Helsinki)
    - Included three similar 3-hour drama workshops
    - Students of Forest Economics and Marketing and of Forest Ecology
    - N=49 students
    - Conducted in 2005
- Course "International forest policy–implications at the national level" (Helsinki Summer School)
    - Included two different 6-hour drama workshops
    - Students of Forest Policy and forestry professionals
    - N=12 students/participants (participated in both workshops)
    - Conducted in 2006

<u>Materials</u>
- Learning journals (both courses)
    - 1-2 pages written after the drama workshop(s)
    - N=55 students (out of 59)
    - Prompting questions in Appendix 1
- Focus group interview (Ethics course)
    - Alternative to writing a learning journal
    - 6 students (out of 49)

<u>Analysis</u>
- Qualitative thematic analysis

Study II

<u>Objectives</u>
- To investigate whether an ethics course taught through educational drama could be used as a tool to prepare students to meet situations they expect they will encounter in working life.
- To explore how the students perceive the significance of educational drama as a teaching and learning method.

Educational setting and participants
- Course "Ethics and Social Responsiblility in the Forest Sector" (Department of Forest Economics, University of Helsinki)
  - Six 3-hour drama workshops (lessons)
  - Students of Forest Economics and Marketing and of Forest Ecology
  - N=41 students
  - Conducted in 2007

Materials
- Learning journals
  - Written after the course, based on previously written journals
  - 1-2 pages
  - Prompting questions in Appendix 2
- Surveys
  - Pre- and post-course questionnaires
  - Anonymous
  - Questions in Appendix 6

Analyses
- Qualitative thematic analysis (learning journals)
- Independent samples t-test (survey)

Study III

Objectives
- To explore what issues the students reflect on after a drama-based role-play (simulation), and what issues do the students report as their learning outcomes.
- To determine to what extent an in-class simulation can produce similar experiences and learning results as work-based learning with real-life working experiences.
- To discuss the strengths and weaknesses of role-play as a form of work-related learning.

Educational setting and participants
- Course "Industrial Marketing in Forest Sector" (Department of Forest Sciences, University of Helsinki)
  - A role-play entity as a continuing activity throughout the course
  - Students of Forest Economics and Marketing
  - N=16 students
  - Conducted in 2009 and 2011

Materials
- Learning journals
  - Written after a simulated business negotiation
  - 1-2 pages
  - Prompting questions in Appendix 3

Analysis
- Qualitative thematic analysis

Study IV

Objectives
- To gain in-depth knowledge about the nature and quality of the research material used in the dissertation, i.e., learning journals.
- To investigate how the students approach reflection, and how context influences their reflections.
- To identify what can be included in the pedagogical and assessment design to support reflection.
- To uncover what is required to make the assessment of a large number of learning journals by several assessors a reliable and valid process.

Educational settings and participants
- Course "Ethics and Social Responsibility in the Forest Sector" (Department of Forest Economics, University of Helsinki)
  - o Students of Forest Economics and Marketing
  - o N=50 students
  - o Conducted in 2007 and 2008
- Course "Ethical International Business Decisions" (Faculty of Economics and Business, University of Sydney)
  - o Business students
  - o N=44 students
  - o Conducted in 2007 and 2008

Materials
- Learning journals
  - o Learning journal entries written after lessons and after course completion
  - o 263 journal entries
  - o 1-3 pages each
  - o Prompting questions in Appendix 4 and Appendix 5

Analyses
- Qualitative content analysis
- After quantitising the qualitative data:
  - o Independent samples t-test
  - o Paired samples t-test
  - o ANOVA (with theTukey test)
  - o Pearson's Chi-square test of independence

The above shows the diversity of the elements included in this dissertation. In order to give a more thorough picture of the materials used in this dissertation, the research material is described in more detail in the following chapter.

4.4. Overview of the research materials used in this dissertation

4.4.1. Learning journals

In this dissertation, the main source of data is learning journals, and they are used as research material in all four sub-studies for several reasons. First of all, as a form of reflection learning journals are naturally occurring data that "derive from situations which

exist independently of the researcher's intervention" (Silverman 2011, p. 470). Learning journals are thus students' genuine reflections of their perceived learning, and both the content and the level of reflection are available to be studied. Reflection as such is a pivotal element in the phenomena studied in this dissertation, i.e., learning through drama and role-play and in work-based learning.

There is also a large body of literature that covers the quality of reflection in learning journals, and several different models or theoretical frameworks have been developed to assess the levels of reflection (see Dyment and O'Connell 2011). Furthermore in Finnish drama education research, learning journals or other reflective writing tasks have been frequently used as research material (e.g., Laakso 2004, Rusanen 2002, Toivanen 2002, Häkämies 2007). There are also examples of the study of role-plays through learning journals (e.g., Heinonen 2007, Mackey 2006).

4.4.2. Focus group interview

According to Silverman (2011), a focus group is a small group of people (often between six and eight) that is encouraged to have an informal group discussion "focused" on a particular topic or a set of issues. In a focus group interview, the researcher acts more like a facilitator than a questioner. In an open-ended interview, the respondents are asked facts and opinions about a matter without any pre-arranged set of questions (Yin 2003). In a "focused open-ended interview", the respondents are interviewed for a short period of time (e.g., an hour), and although the interview still remains open-ended and conversational, the interviewer may follow a set of issues or questions (ibid.).

A focus group interview was chosen to act as a supplementary source of data in Study I. The main aims were to complement the findings based on learning journals, to gain a more multifaceted understanding of the learning experience, and to increase the credibility of the study. Focus group interviews are one way to access information from learners. Surveys, as discussed next, can also be useful.

4.4.3. Survey

Regarding studies on social substances, Marsh (1982) defines surveys as systematic measurements that are made over a series of cases yielding a matrix of data. The variables in the matrix are analysed to see if they show any patterns. Surveys are included in traditional quantitative approaches to research (Yin 2003, Mertens 2003).

In Study II, surveys were used as research material along with the learning journals. The purposes for using survey as a data source were to allow triangulation and to complement the findings of the study.

4.5. Overview of the forms of drama and role-play

4.5.1. Drama forms in the sub-studies

In both Study I and Study II, drama was a learning process that relied on students' individual experiences and their interactive teamwork during the drama, as well their individual study prior the drama workshop. All the students were involved in the activity and improvisational work without any scripts, and much attention was paid to the role

context. Teachers did not have the "correct" answers, because the topics discussed were disputable by nature. However, teachers participated in the drama using the teacher-in-role convention. The drama experience and the evoked ideas and feelings were reflected on through reflective in-class discussions and written learning journals. The overall aim was to reach a multifaceted understanding of the phenomena in question: ethical decision-making, different concepts of forests and forestry, and forestry conflicts.

The form of drama used in Studies I and II can be labelled as process drama. Bowell and Heap (2001) describe process drama as a genre that does not entail performance to an external audience, but in which presentation to the internal audience is essential. They (ibid.) also argue that one of the differences between process drama and other genres of theatre in education is that the teacher is actively involved and often takes a role in the drama. According to Eriksson (2009a), process drama "should be construed as a form of participant based improvised drama, where various forms of dramatic conventions, including dramatic text, are used to explore, reflect upon and express a (sometimes) social theme" (p. 23-24).

Following Eriksson's (2009b) idea of different curriculum orientations, the drama form in Studies I and II could be categorized under the *dialogue model*. Eriksson (ibid.) also places process drama under this model. According to Eriksson (ibid.), this model is based on interactive dialogue and problem-solving, and the drama aims at exploration for new knowledge, and strives for understanding. Personal relevance orientation and authenticity are also prominent features of this type of approach.

4.5.2. Role-play form in Study III

Study III is based on a simulation that resembles free form and unstructured/developmental role-play (see Chapter 3.3.2.). The approach also follows van Ments' (1996) concept in the sense that we did not give many details of the characters involved, but just gave the students a frame in which the role-playing would occur. However, the approach deviates from most role-plays, because students were not given the background facts, but in order to give an experience of problem-solving and tackling challenging tasks, the role-play paradigm required that the students define and find the relevant information by themselves during the course. The students also had to decide which roles should be involved in the role-play. Hence, the students were given the opportunity to participate in the process of designing the simulation. According to Druckman and Ebner (2008), participants who are involved in the role-play design process may gain a better understanding of the way the concepts are related than participants who only take part in the role-play. Furthermore, we did not strive for maximum authenticity, but students were allowed to use their imaginations if genuine facts were not available. Here the aim was to give students an experience to make decisions in an uncertain environment and act according to their best understanding. Compared to most role-plays, this approach gave students more freedom to operate. This freedom, in turn, carried with it some uncertainty and some doubts about the authenticity and fidelity, which are usually rather unwanted characteristics in role-plays.

In reviewing the theories of learning in drama, it can be seen that the form of role-play used in Study III made students aware of the fictive nature of the activity. Thus, they had a chance to learn in the interplay of the fictive and real world; this experience is at the core of drama in education (Bolton 1985; see also, chapter 3.2.2.). Compared to Eriksson's (2009b; see also, chapter 3.2.1.) list of drama education curriculum orientations, the role-play in Study III could be placed in both the *transmission* model and the *development* model. The

main common aspects between this role-play approach and the transmission model are the aspiration to acquire knowledge and skills, aims at subject-based, normative proficiency, and acceptance of reality. However, the teacher did not remain in the role of an instructor, as is the case in transmission model, but functioned more like a facilitator. The similarities between the Study III role-play and the development model are activity-based experiential growth and the idea of practical learning. The development model also comprises the idea of limited interference in the educational process by the teacher, which was also central in the Study III role-play. However, the goals of the role-play did not include personal development orientation in the sense Eriksson (ibid.) describes it, including such issues as individual growth, freedom, originality, or creativity, which are included in the development model.

The approach of the role-play described in Study III seems to fall somewhere between educational drama and conventional role-playing, and it may conflict with some scholars' views of a proper simulation or role-play. On the other hand, it most likely also conflicts with several drama scholars' view of a genuine drama. Therefore, it seemed appropriate to distinguish between this form of role-play and the others, and therefore the approach was named *drama-based role-play*. This form will be explored in more detail in the following sections where the method of each sub-study is described in detail.

4.6. Study I Method

4.6.1. Study I: Educational settings and participants

The data for this study were collected in two courses: a course in professional ethics and another in forest policy. Both courses included a process drama workshop as one component. In addition to the drama workshops, the courses included other elements, such as lectures, group work assignments and literature on the course topic. Students also wrote learning journals (see chapter 4.6.2.1.).

Participants and the design of the drama workshop for course on professional ethics (Ethics)

The Ethics course was an obligatory study unit for second-year students of forest ecology and of forest economics and marketing. The course was held at the Faculty of Agriculture and Forestry at the University of Helsinki. The drama workshop in the Ethics course was held at the end of the course. Three similar drama workshops were arranged from which the students could choose, because otherwise the number of students in one workshop would have been too high. Each workshop included two three-hour sessions within one week. Altogether 53 students participated in the drama workshops (23 male and 30 female) in the autumn semester of 2005.

In the workshop, the fictional (dramatic) context was "International Forest and Paper (IFP) Ltd.", a global forest industry company operating on three different continents. The structural background idea for the workshop was borrowed from Allan Owens's process drama pre-text, "The Four Sectors" (Owens and Barber, 2001). In the Ethics course, students formed "executive boards" for four subsidiaries (paper or pulp mills) of IFP Ltd. In the first session, each executive board was given "facts" about their own mill and a certain ethical approach (e.g., virtue ethics, utilitarianism) to follow. The boards drew pictures of their ideal paper/pulp mills, and thought of ways to illustrate the given ethical approach in

the drawing and their public relation slogans. The teacher participated in the drama as the Vice President of the IFP Ltd. (teacher-in-role convention, see e.g., Owens and Barber 1997).

The second session began by informing the participants that five years had passed and IFP Ltd. was facing some severe economic difficulties. Between the sessions some risk factors for each mill had been chosen from the students' illustrations, and now these risks were presented as realised problems. The boards were also informed that one of the four subsidiaries would be sold to an international investor. As with the "The Four Sectors", the IFP drama also ended with a tough negotiation between the four small groups for deciding which mill should be sold. At the end of the session, much class-time was devoted to reflective discussions.

Participants and the design of the drama workshop for course on forest policy (Policy)

The Policy course was arranged by the Helsinki Summer School. The participants were forestry professionals and students of forest policy, and they came from several different countries, mostly in Europe. Altogether 12 students participated in the drama workshops (6 male and 6 female) in the summer of 2006. In the Policy course, there were two different drama workshops on two consecutive days each lasting approximately six hours. The first drama workshop again followed the idea of "The Four Sectors". Here the four groups were cast in the role of forest consultants, who were supposed to find an ideal forest area for an international investor. Their groups' task was to "create" a forest of their dreams, in other words, to imagine a forest that is managed in the manner in which they would like forests to be managed. After the groups had presented their ideas to the investor (teacher-in-role), the investor stated that she could not afford to buy more than three of the suggested forest areas, and therefore one of the suggestions should be dropped. The drama ended with a negotiation between the four small groups to decide which proposition could be eliminated.

The second drama workshop in the Policy course dealt with a real on-going environmental dispute in Upper Lapland in Finland. The dispute had several stakeholders including, e.g., environmental NGOs, local forest workers, the Ministry of Agriculture and Forestry, and a state enterprise that administers state-owned land in Finland. The previous week, the students had followed a panel discussion between the real main stakeholders. After the panel discussion, students were divided into groups of two to three students, and each small group interviewed one of the stakeholders. The students were also told that in the forthcoming drama workshop, they would be in the role of that stakeholder.

The actual drama workshop began with an imaginary situation in which the state enterprise had decided to commence logging on a controversial forest area. To prove that the logging is justified, the enterprise invites several stakeholders to follow a press conference and a logging demonstration on the planned logging site in Upper Lapland. An environmental NGO is strongly against the logging, and pitches camp near the same site. After describing this starting point, the teacher marked the area of the "logging site" and the "NGO camp" in the classroom and then asked the students to step into their roles as the given stakeholders. When the drama had escalated into no less than an open conflict between the local forest workers and the NGO members, this convention was interrupted. The students were then asked what should be done next in such a tense situation. The students proposed meetings between the main stakeholders in order to find a resolution to the dispute, and these meetings were then arranged as the next convention. At the end of the workshop, much time was devoted to reflection on the (inconclusive) meetings.

4.6.2. Study I: Materials

4.6.2.1. Study I: Learning journals

Learning journals in the Ethics course
After the drama workshop, the students could choose to either write a learning journal or participate in a focus group interview. The group interview was chosen by 6 students, and the remaining 47 students wrote learning journals.

The students had already written four weekly (lecture-based) learning journal entries before the drama workshop. The learning journal instructions were given in writing. The students were first asked to read their previous journal entry concerning the operational principles of a "good" company and then to elaborate further, whether the text should be revised based on the drama workshop. The second task was to elaborate on personal feelings, emotions and thoughts evoked by the drama workshop. In the instructions students were also asked, whether they had realised something personally significant or found new angles or perspectives during the drama workshop. Further, the students were asked to write about their impressions of drama as a teaching method. The recommended length of the learning journal entry was one page. Writing the learning journals was obligatory, but the journals were not evaluated for a course grade. The students wrote their learning journals in their native language (Finnish or Swedish).

After completing the course, the students were asked by e-mail for permission to use their learning journals as research material. Altogether 43 out of the 47 students gave their permission.

Learning journal in the Policy course
In the Policy course the learning journal entry written after the drama workshops was the only entry written during the whole course. The instructions for the learning journal were written on a flip chart paper at the end of the first workshop, and the students were reminded of the instructions after the second workshop. The instructions were: "What did you learn today: (a) in general and (b) of yourself?" In addition, the students were verbally asked to write about their impressions of drama as a teaching method. The students were allowed to choose whether to write two separate journal entries or only one learning journal entry covering both of the workshops. The recommended length was one page. The learning journals were written in English, which was not the first language of any of the students. It was compulsory to write the learning journals, but the journals were not assessed for a course grade.

On the Policy course, the permission to use learning journals as research material was asked for verbally during the workshops. All 12 students gave their permission.

The prompting questions for the learning journals used in Study I can be found in Appendix 1.

4.6.2.2. Study I: Focus group interview

Six students (5 male and 1 female) participated in the focus group to discuss their experiences and perceived learning during the drama workshop and the ethics course in general. The interview was a focused, open-ended interview. The discussed questions were:
- What were the main impressions after the drama workshop?
- What was learned in the drama?

- Did the roles work in practice?
- Was it difficult to follow a given ethical approach?
- Was the structure (the workshop was divided into two 3-hour sessions) functional?
- What sort of drama workshop would be most suitable for learning ethics?
- Is drama a suitable teaching method for university education?

4.7. Study II: Method

4.7.1. Study II: Educational settings and participants

The data were collected in the professional ethics course organised by the Department of Forest Economics at the Faculty of Agriculture and Forestry at the University of Helsinki in the spring term of 2007. As in Study I, this course was an obligatory study unit for the second-year students of forest ecology and forest economics and marketing. The target group consisted of the 41 undergraduate students of forest ecology and forest economics and marketing who participated in the course. There were 22 male and 19 female students attending the course.

In this course, educational drama was used as the main teaching method. In addition, representatives of two large forest industry companies presented lectures on corporate social responsibility. The students' independent studies consisted of writing eight learning journal entries (see Chapter 4.7.2.1.) and reading scientific articles for six multiple-choice exams.

As in Study I, the context (storyline) of the drama was "International Forest and Paper (IFP) Ltd.", which was a fictive, global forest industry company. Students formed "executive boards" for eight of its subsidiaries (either paper or pulp mills) operating in different countries worldwide. Each executive board had 5-6 directors (students). During the first lesson, the eight groups were given the basic facts and figures about their "own" mill, and the students were asked to create a name for this subsidiary. The students were also given a set of individual roles as directors to choose from including the fields of management, finance, marketing, human resources, production, and environment. The two teachers assumed the roles of CEO and Chairman of the Board (teacher-in-role convention). In order to evoke new points of view, the story was deliberately estranged from the real life (see Eriksson 2009a) by belittling the importance of economics, and by presupposing that business decisions are almost exclusively made based on ethical considerations.

The drama sessions consisted of six lessons (workshops), each lasting three hours. The students had to read a scientific article for each lesson, and at the beginning of the workshops, a quick, individual multi-choice test was given on the article. As background information, the students were also given a hand-out for the whole course. Each workshop generally followed the same structure, which will be described shortly.

After finishing the multi-choice test, the teacher discussed the correct answers. Then, after a short warm-up, the teachers introduced the current problem situation in IFP, usually using the teacher-in-role convention. Every workshop presented a new ethical problem that the company faced, and the executive boards were asked to consider and give their well-grounded suggestions of how to approach this problem. The groups were allotted an hour to discuss the problem and to write down their analysis. After this 60 minutes of group work, the workshop continued in roles by presenting the suggested solutions and by discussing them through different drama conventions. The teachers were usually in roles arguing

strongly either for or against the presented solutions. The whole workshop ended as the students and teachers stepped out of their roles followed by the teachers' brief comments about the group work. The groups' written analyses were always collected and evaluated, and they formed part of the individual student's grades.

4.7.2. Study II: Materials

4.7.2.1. Study II: Learning journals

In Study II, the qualitative research data were collected from the students' learning journals that were written after the whole course. The students submitted journals after each workshop, but only the very last journal covering the entire course was analysed in this study, in order to have the students' own summary of their learning as research material. The final learning journal was assessed, and its weight was 40% of the final course grade. Thus, the quality of the last learning journal could also be assumed to better than that of the weekly ones (see Clarkeburn and Kettula 2012). See Appendix 2 for the guidelines of the learning journal.

All students wrote their journals in their native language, either Finnish or Swedish. At the beginning of the course, 20 minutes of class time was devoted to explaining the reflective task and the idea of learning journals. The basic directions given for weekly learning journals included asking the students for basic details of the learning event, what was learnt, what the learning meant and where the student would move next in relation to this learning. In the final learning journal (i.e., the research material), the students were asked to write about their self-identified key learning events from the entire course. Students were also provided with a list of auxiliary questions for identifying a learning gain and for relating that to their own experiences. In addition, because the students had asked for more feedback, further class time was devoted to responding to these queries just before writing the final learning journal. Six months after the course, the students were asked by e-mail for permission to use their learning journals as research material. All 41 students gave their permission for their work to be used.

4.7.2.2. Study II: Survey

In Study II, quantitative research data were collected in the form of survey questionnaires. The students completed two research questionnaires: one questionnaire during the first lecture and one questionnaire during the last lecture. The first questionnaire asked the students about their opinions of their university studies in general, and in the second questionnaire, the same questions were adapted to this specific course and the perceived learning during the course. The responses were given on a five-point Likert scale.

The survey questions were formulated based on the theories of expertise and expertise development. The questionnaire was first tested on another course at the Department of Forest Economics, and because of this testing, some unclear wording was revised prior to using the questionnaire in Study II. See Appendix 6 for the survey questions used in this study.

4.8. Study III: Method

4.8.1. Study III: Educational settings and participants

In Study III, the educational setting was a business-to-business marketing course organised by the Department of Forest Sciences at the University of Helsinki in the autumn terms of 2009 and 2011. This course was an obligatory study unit for the second-year students of Forest Products Marketing, and it included a role-play entity, "Executive Workshop", as a continuing activity throughout the course. Altogether six students participated in the course in 2009 and twelve students in 2011. The target group consisted of 16 students of whom six (4 male and 2 female) participated in the course in 2009 and 10 (2 male and 8 female) in 2011. In the 2009 target group, all participants were Finnish, whereas in the 2011 group three students (out of ten) were from countries other than Finland.

In the role-play, the students were in the roles of managers of an industrial producer and a buyer company. On the first session, the students were divided into the two groups and they were given their "own" company. During the next lessons, the students gave company presentations, in which the students were in roles presenting facts about their own company, its products and the current market situation. The companies used in this simulation were real companies about which the students could fairly easily find information on the Internet or from other public sources.

The whole simulation exercise culminated in a "business negotiation" between these two companies at the end of the term. There was a brief reflection (debriefing) on the role-play situation straight after the negotiation, and the reflection was continued in the students' learning journals and during the following lecture. The two teachers who were involved in the simulation, did not participate in the role-play, but acted as facilitators and observers.

Both simulations (2009 and 2011) followed the same form. However, in 2009, the course was held in Finnish, and in 2011, the course was conducted in English. In addition to the role-play, the course, as a whole included lectures on the theories of business-to-business marketing and writing of learning journals (see Chapter 4.6.). In 2009, there were also individual assignments, excursions and guest lectures integrated in the course.

4.8.2. Study III: Materials

In Study III, the research data were collected from the students' learning journals written after the simulated business negotiation. In the 2009 course, the analysed journal was the second learning journal to be written, whereas in 2011 this was the only learning journal written during the entire course. Writing learning journals was obligatory, but the journals were not assessed for a course grade. In 2009, all students wrote their journals in their native language, Finnish. In 2011, the students wrote their learning journals in either English or Finnish; English was not the first language of any of the students.

The directions given for learning journals included asking the students for basic details of the learning event, how the students would assess their own and their teams' actions, what was learnt, what the learning meant and where the students would move next in relation to this learning. In addition, students were provided with basic information about reflective thinking and critical reflection, and a list of questions to help reflective thinking was given as a tip (Bourner 2003). Prior to submitting the learning journals, there was also some class time allotted for discussing and motivating reflection and journal writing. See Appendix 3 for the guidelines and the prompting questions for writing the learning journals.

Following the completion of the course all students were asked by e-mail for consent to have their journal entries included in this study. All students of the 2009 course and ten students (out of twelve) of the 2011 course gave their consent.

4.9. Study IV: Method

4.9.1. Study IV: Educational settings and participants

The educational setting in Study IV consisted of four different courses in professional (business) ethics. These courses were taught by the same lecturer between 2007 and 2008 at the Faculty of Economics and Business, University of Sydney (Australia) and at the Department of Forest Economics at the Faculty of Agriculture and Forestry, University of Helsinki (Finland).

The teaching approach in all courses was based on creating an active classroom, where student groups worked independently and simultaneously on problems. All cohorts also applied ethical theory to a specific company, a real one in Australia and a fictitious (drama-based) one in Finland. In the 2007 Finnish course, the active classroom approach was combined with drama-based learning throughout the entire course (see Study II, Chapter 4.7.1.), and in the 2008 Finnish cohort, the course was arranged as a combination of face-to-face instruction and online learning (i.e., blended learning), which allowed the groups to complete their group work online. Each cohort also included a learning journal component (see Chapter 4.9.2.).

The Australian group consisted of 44 business students of whom 20 (12 male and 8 female) participated in the course in 2007 and 24 (11 male and 13 female) in 2008. The Finnish group consisted of 50 students of forest economics and marketing of whom 24 (14 male and 10 female) participated in the course in 2007 and 26 (12 male and 14 female) in 2008.

4.9.2. Study IV: Materials

In Study IV, each cohort had a weekly learning journal component, which was voluntary in the Australian and compulsory in the Finnish cohorts. The weekly learning journal entries were not assessed for a course grade. At the end of the course students were required to submit a final learning journal which covered their self-identified key learning events from the entire course. This final learning journal formed a part of the overall assessment in all four courses. In the Australian cohorts its weight was 15% of the final course grade, and in the Finnish cohorts the weight was 40% of the 2007 course grade and 35% of the 2008 course grade.

In Finland, students could write their journals in their native language (either Finnish or Swedish), while in Australia all journals were written in English regardless of the students' native language. The basic guidance for journal writing included a suggested structure for a journal entry. At the beginning of the course, 20 minutes of class time was devoted to explaining the reflective task in all four courses. For final learning journals, the students were provided with a checklist that identified basic criteria like identifying a learning gain and relating that to their own experiences. See Appendices 4 and 5 for the prompting questions provided for writing the weekly and the final learning journals in 2007 and in 2008. In 2008, students in both the Sydney and Helsinki cohorts were further provided a

PowerPoint presentation for self-study that clarified concepts like "values" and "assumptions" and terms like reflection in preparation for writing learning journals based on the studies of Carson and Fisher (2006). Students in all cohorts were also encouraged to ask for feedback from the teaching staff on their journal entries if they were unsure of what reflective journals should cover. In Australia, fewer than 10% of students in either cohort took advantage of the feedback offer. In the 2007 Finnish cohort, requests for feedback were common and further class time was devoted to responding to these queries. In the 2008 Finnish cohort formal requests for feedback were rare.

Following the completion of the course, all students were asked for their written consent to have their journal entries included in this study. All Finnish students gave consent, while only 54% of Australian students agreed to have their work included in the study. The low number of consents from the Australian cohort may be explained by the fact that approval to use the journals was requested after the course had been completed and many students had completed their last semester and thus were no longer available via student email. The included students did provide a representative sample of the cohort in relation to gender, native language and final grade for the course.

The included students had submitted 781 journal entries. To study the possible progression in reflective writing while managing the quantity of research data, focus was given to three journal entries from each included student: (a) from a session early in the course (session 3), (b) to a later journal (session 8 for Australian and session 5 for Finnish cohorts), and (c) their final learning journal. This resulted in a pool of 263 journal entries for analysis allowing for some missing journals from students.

4.10. Mixed methods approach in this dissertation

In this dissertation, the fundamental reasons for using mixed methods approach are to enhance understanding of the phenomenon, i.e., the potential of drama and role-play as learning methods in higher education, and to increase the validity of the findings. These targets are in line with the definition by Johnson et al. (2007) stating that mixed methods research is a tool for furthering breadth and depth of understanding and corroboration. In addition, there is an intriguing similarity between the underlying mind-set of educational drama and Greene's and Caracelli's (2003) dialectic stance arguing that the tension caused by opposed or contradictory worldviews is a fruitful vehicle to enhance understanding. Thus, the dialectic stance adopted in the research design also agrees with the teaching approach in Studies I, II, and (partly) IV.

This dissertation uses a mixed methods approach on two levels: in single studies and on the whole dissertation level. In Study II, both quantitative (i.e., survey) and qualitative (i.e., learning journals) data are gathered. In Study IV, the original data obtained from learning journals are qualitative, but these data are quantitised for statistical analysis. Studies I and III are totally based on the qualitative method, and thus these studies can be considered monomethod designs (see Leech and Onwuegbuzie 2009). In Study I, the data are gathered from learning journals and a focus group interview, and in Study III the data are derived solely from learning journals. Because the final conclusions of this dissertation are drawn based on the sub-studies that employ both qualitative and quantitative methods, the method is mixed on the whole dissertation level, as well. The methodological choices are illustrated in Figure 4.
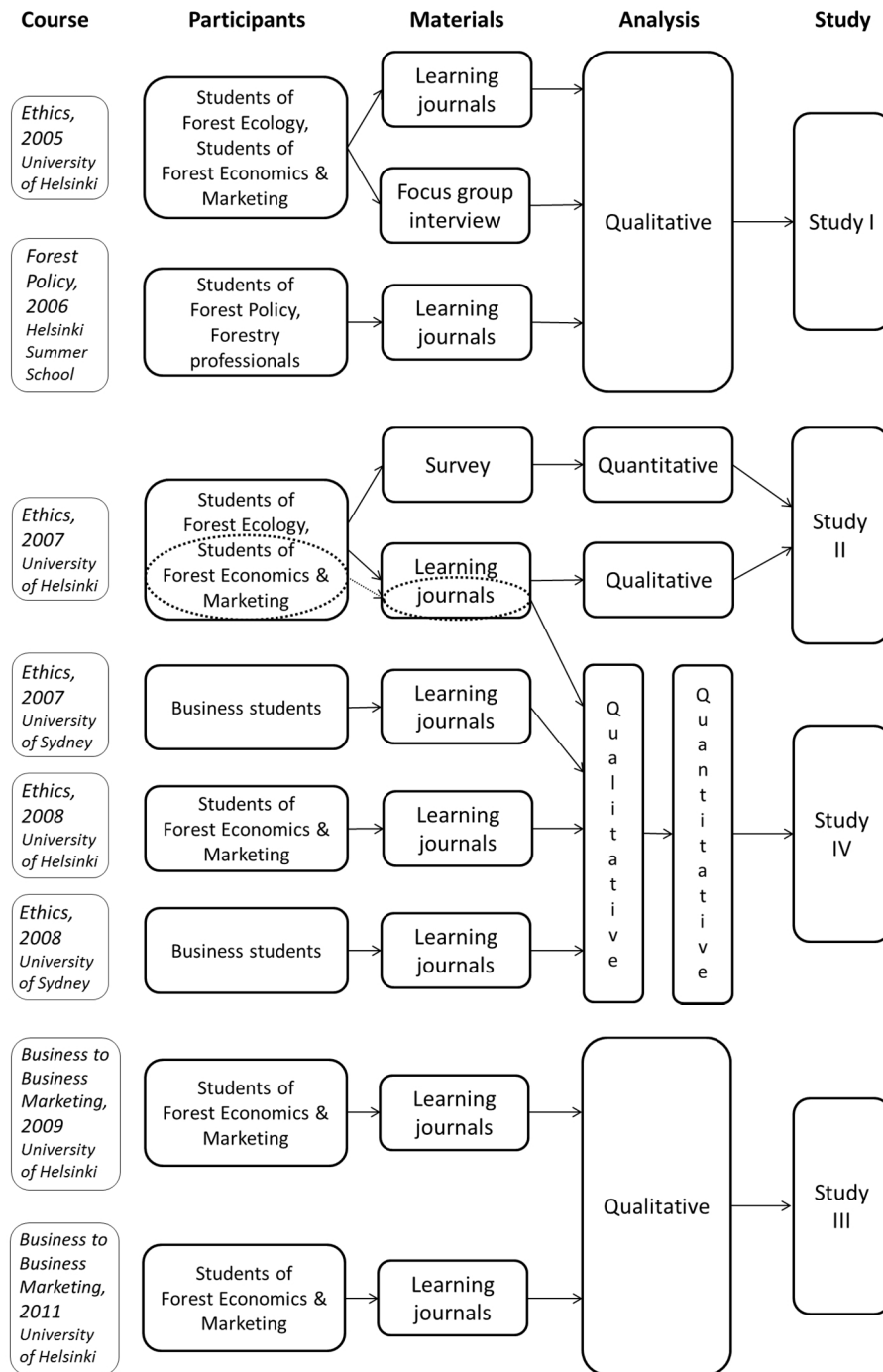
Figure 4. Framework of educational settings, participants, materials and analyses in single sub-studies

5. ANALYSIS

5.1. Analyses of the learning journals

The adopted analysis process in Studies I, II and III resembles qualitative thematic analysis. In a qualitative thematic analysis relevant themes are identified from what respondents say (here: write), and selective quotations are presented as illustrations of each of the identified themes (Silverman 2011). In Study IV, conventional qualitative content analysis (see e.g., Bergman 2010, Mayring 2000) was applied. As the starting point for this analysis, we adapted the classification methodology developed by Kember et al. (2008).

In the following, because the method of analysis (qualitative thematic analysis) was similar in Studies I, II and III, the analysis process of Study I is described in detail, but only the different or otherwise relevant issues of analyses in Studies II and III are explained. However, the analysis of learning journals in Study IV is described at length.

5.1.1. Study I: Analysis of the learning journals

The learning journals of the two courses were analysed separately. In Study I, the proposition was that a drama workshop could enhance professional development by enhancing self-knowledge and awareness of different perspectives. The process of analysis was begun by assigning codes to the journals based on different themes according to the above-mentioned proposition. This was a provisional "start list" as suggested by Miles and Huberman (1994). By also adopting Mayring's (2000) model of inductive category development in qualitative content analysis, the analysis involved formulating new inductive categories out of the material while coding. In this inductive phase, the proposition was not guiding the analysis, and the phase resembles the coding process in qualitative thematic analysis as described by Silverman (2011). In the coding process, the basic unit of analysis was usually a sentence. If needed, to cover a definite meaning or thought in the text; several sentences or a whole paragraph could also be chosen as a unit of analysis.

Finally, there were 49 different categories identified in the data for the Ethics course and 28 for the Policy course. Because most of the coding categories were created while coding, a new round of coding was necessary to better analyse the entire data set according to all categories.

After coding all learning journals, the categories were grouped under different themes. The quotations corresponding to each theme were then reviewed. This was done in order to detect possible similarities and contradictions in the quotations and also to check whether the coding was done appropriately. Themes and categories that were relevant to the proposition were then scrutinised resulting in thirteen categories to study further for the Ethics course and ten for the Policy course.

Quotes corresponding to each category were studied against the proposition. To sort the categories further, two new main categories were created: Awareness and understanding of different perspectives, and Enhancing self-knowledge. As a result of this process of analysis, the aim was to find out whether the proposition applied (see Sivesind, 1999). The analysis was continued by sorting the main categories into sub-categories. Lastly, the

learning journals were re-analysed in order to discover what elements in the drama workshops may have triggered either self-knowledge or awareness of different perspectives. The analyses were made with the help of Atlas.ti 5.0 software.

Check-coding was carried out by an outside assessor, as suggested by Miles and Huberman (1994). The assessor analysed independently all Policy course quotes that in the initial coding had been identified as fitting the definitions of the two main categories. The inter-coder agreement was 88%, which was considered satisfactory. The difference was because the author had accepted more quotes in the categories than the outside assessor did. However, after discussing the unclear cases, the author and the assessor eventually agreed on most of the coding.

5.1.2. Study II: Analysis of the learning journals

The learning journals of all 41 students were analysed. The qualitative analysis began by assigning codes (categories) to the journals based on different themes according to the research questions. Altogether, there were 115 different categories identified in the data. These categories could be grouped under 30 different themes.

Next, the themes that were relevant to the research questions were selected for a more profound analysis, and the result was 11 final themes to be taken for further study. The quotes corresponding to each of these 11 themes that were considered to be relevant with relation to the research questions were selected for a more profound analysis. Finally, these quotes were re-grouped under two new themes: Linkage to real life and Connection between perceived learning and educational drama as a teaching method. These themes were further divided into sub-themes. The analysis was made with the help of Atlas.ti 5.0 software.

The coding, re-coding, and formulating of the final themes, as well as sorting of the quotes according to the two final main themes, were carried out by the first author of the essay. The check-coding, as suggested by Miles and Huberman (1994), was carried out by the second author. In the final check-coding, the sample sizes were 25% and 26% for the two main themes. The inter-coder agreement rates were 93% and 97%, which were considered satisfactory. The coding that the authors disagreed on were few and no specific reason for the disputed items could be detected.

After the qualitative analysis and the coding process of the journals, some quantitative analyses (counting percentages) were conducted on the data. Bearing in mind the qualitative nature of the data and the adopted analysis framework, the assumption was that by counting some figures, the breadth of the research approach would improve. This view is also supported by Silverman (1993, 2000) and Mayring (2000).

5.1.3. Study III: Analysis of the learning journals

The learning journals of all 16 students were analysed. The process of analysis was begun with the analysis of the 2009 journals. The first author read the journals through several times and then inductively listed issues about which the students had written. In total there were 46 issues (or "codes") to study further. All these issues could be grouped under five themes: self-reflection; group work and other group-related issues; social and interaction skills; the whole term-long simulation activity, and (other) elements of the course. These themes were allowed to overlap. The analysis was continued by creating sub-themes and sorting the quotations under them. The analysis also involved constantly reverting to the

original texts in order to ensure a correct understanding of the quotations. As a result of this round of analysis, an initial framework for findings was created.

The 46 codes (issues) found in the 2009 learning journals acted then as a starting point, when the first author began to analyse the 2011 learning journals. However, the list of issues was not considered restrictive, and new codes were inductively created when needed, resulting in 12 new codes (new detected issues). However, when all codes were again grouped, most of the new codes could be grouped under the same five themes as were found in the 2009 journals, and there was a need to create only one new theme, "language". While no significant differences between the groups could thus be detected, the two sets of data were then conjoined, and the findings based on the 2009 journals were amended with the findings based on the 2011 journals.

The credibility of the findings was strengthened through a dialogue between the co-researchers as suggested by Graneheim and Lundman (2004). The second author read all the learning journals and compared them to the first author's findings. Unclear cases were discussed and findings were amended based on these discussions. However, the unclear cases were few, and agreement was reached fairly quickly. The main change was to create a new theme "expectations and anxiety" by extracting it from the theme "the whole term-long simulation activity".

Finally, all findings were compared with the theories of work-based learning in order to discover similarities and differences between work-based learning and learning in drama-based role-play. Part of the analysis was made with the help of Atlas.ti 5.0 software.

5.1.4. Study IV: Analysis of the learning journals

To analyse at what level business students approach reflective tasks, conventional qualitative content analysis (see e.g., Bergman 2010, Mayring 2000) was applied as the method of analysis. The classification methodology developed by Kember et al. (2008) was adapted as the starting point. This model identifies four categories for classifying levels of reflection in written work: habitual action (renamed for this study as non-reflection), understanding, reflection; and critical reflection. As suggested by Kember et al. (2008) the level of reflection was assessed at the whole entry level; thus, the basic unit of analysis was an entire learning journal entry.

In the first round of analysis, there was a significant variation between the two assessors using the analysis framework by Kember et al. (2008). This indicated that the original framework possibly required adjustment in the new context and that the interpretations of the classifications needed to be further clarified between the assessors.

Next, a process explained by Bell et al. (2010) was adopted to create a shared understanding of the coding criteria. Following the original individual coding, the main source of variation was found to be in journal entries identified in the category "Reflection". This category included both high quality reflection, meaning in-depth analysis of one or more topics as well as more superficial reflective journals that usually focused on a few topics providing only brief indications of reflective ability. The category seemed too broad. To further analyse this area, a decision was made to include a "Transitional" category between Understanding and Reflection. The journal entries newly identified as Transitional showed brief evidence of an ability to reflect through self-declaration of having reflected, but provided no evidence of reflection through examples or further description.

A second analysis of the learning journals was conducted independently by both authors using the revised framework. The first author independently analysed the Australian

journals and the second author the Finnish learning journals. During the coding process the authors discussed unclear cases and adjusted the category definitions and coding accordingly. After the coding process was completed, the authors cross-analysed a sample (35% of the Finnish and 42% of the Australian) of each other's journals in order to determine inter-rater reliability, as suggested by Silverman (1993). In the final cross-categorisation between the assessors, the agreement was 84%, which was considered satisfactory. The difference in coding was mainly due to borderline cases in the category Reflection (bordering both Transitional and Critical Reflection), and the coding deviated to both directions.

Following the qualitative analysis and coding process of all selected journals, the data were quantitised in order to study variation between different student groups. It was considered that statistical analysis would improve the rigour of the research approach (Mayring 2000, Silverman 1993). The decision to employ statistical methodology was motivated by the opportunity to study such a large body of analysed journal entries and determine whether any pre-existing biases might be uncovered to have influenced reflective practices of different student groups and thus possibly create an unfair or biased assessment protocol. While quantitative studies on learning journals are rare, there are some recent examples (e.g., Bell et al. 2010) to support the approach.

In order to identify statistical significance, the different qualitative framework categories were both numbered and combined. In order to count means for the reflection levels, the reflection categories were numbered from 1 to 5 by giving "Critical Reflection" the highest value of 5, and "Non-Reflection" the lowest value, 1. Because there was not the same number of weekly learning journals available from all of the students, the means of the weekly journal values were first calculated for each student individually. However, the data did not contain any weekly learning journals from three students, and thus their values were omitted from analyses related to weekly Learning Journals. This left 91 students' Weekly Learning Journal values to study further. Regarding the final learning journals, the values of all 94 students' final Journals could be included in the analyses.

The results are reported as means, comparisons between means, proportions and differences between proportions. Comparisons between means were examined using independent and paired samples t-tests and ANOVA, while differences between proportions were assessed using Pearson's Chi-square test of independence. If differences between groups were detected using ANOVA, the Tukey test was used to determine which means differed significantly. The results with p-value under 0.05 are reported as statistically significant.

5.2. Analysis of the focus group interview

In Study I, six students (5 male and 1 female) participated in a focus group interview. The interview was tape-recorded. Because of the supplementary role of the interview data, the audio tape was not transcribed word by word, but, as suggested by Grönfors (1982), notes were first made of the whole discussion. These notes were then grouped under themes based on the interview questions (see Chapter 4.6.2.2.). However, within each theme, the analysis concentrated on items that were relevant to the research proposition, and these items were also chosen for further analysis.

The analysis of the group interview was made independently from the learning journal analysis. The main aim of the analysis was to be able to look for variation and possible differences between the findings based on the learning journals and the interview.

5.3. Analysis of the survey

There were two sets of questionnaires for Study II: the pre-questionnaire at the beginning of the course and the feedback questionnaire at the end of the course. All students who were present at the first and last lectures were asked to complete the questionnaires. A total of 38 students out of 41 (93%) responded to the pre-questionnaire and 35 students (85%) to the feedback questionnaire. The questionnaires were answered anonymously.

The pre-questionnaire included 21 questions (statements) and the feedback questionnaire included 23 questions (statements). However, only the six questions that concerned working life and real-life resemblance, and were thus relevant for the research questions of this study, were selected for analysis. The responses were given on a five-point Likert scale, ranging from "I totally disagree" to "I totally agree".

In the pre-questionnaires, the students were asked to reflect on their studies at the university in general. An example of a statement is, "I believe that I will have to solve similar types of problems in working life as I solve during the lectures, workshops and/or group work situations". The corresponding question in the feedback questionnaire was applied to the course content to ascertain the additional value produced by this specific course. The students were asked to reflect on their experiences during the course, for example, "I believe that I will have to solve similar types of problems in working life as I solved during the course in the group work situations." The questions were in Finnish.

The answers in the analysis were assigned values from 1 to 5, with 1 corresponding to "I totally disagree" and 5 corresponding to "I totally agree", respectively. The means for each of the answers were calculated, and an independent samples t-test was applied to the data in order to compare the differences of the means in both the pre-questionnaires and feedback questionnaires. The means were also compared manually to detect the direction of the change between both the pre- and post-course opinions. The significance level was set to 0.05 in the t-tests, and the results with a p-value under 0.05 were reported as being statistically significant. The statistical analyses were made using the SPSS 16.0 software.

6. MAIN FINDINGS OF THE SUB-STUDIES

In the following brief overview, the main findings of the sub-studies are summarised. The detailed findings are presented in the separate Studies I, II, III and IV.

6.1. Study I. Enhancing understanding: Drama as a tool in higher education

The findings of Study I indicate that even short drama workshops can enhance awareness and understanding of conflicting opinions and perspectives. This new understanding could be sorted into five different categories: insights into the theme and the fictional (dramatic)

context; awareness of differences in opinions; insights into negotiation skills and processes; understanding of the significance of emotions, and ability to look at things from a new perspective.

Drama had also increased the participants' self-knowledge, i.e., students' metacognition of their own values, underlying premises, beliefs or behaviour in certain situations. The self-knowledge that was found in the students' learning journals could be placed into three different categories: realising something new about oneself, recognising something already known previously, and stating "facts" about oneself. In general, it appears that the drama workshops had helped students to realise something new about themselves, while confirming their earlier self-conceptions. However, the quality of these metacognitive statements varied. Some students made quite well-thought out analyses of their own behaviour or values, but there were many students who just made a short comment without elaborating further.

The study also presents a list of features of a drama workshop that may trigger self-knowledge and awareness of different perspectives: fictional (dramatic) context of the drama, single incidents within the drama workshop, emotions involved during the drama workshop, different roles and role taking, discussions, the dramatic tension and different drama conventions, and heterogeneity of the group.

6.2. Study II. Learning through fictional business: Expertise for real life?

The results of Study II indicate that educational drama can bring a sense of real life to classrooms. Two-thirds of the students wrote in their learning journals that the course had trained them for working life or had expanded their knowledge of it. According to these students, the course had: provided information on the issues and situations they will have to encounter in working life; made them more prepared to encounter the challenges of working life; provided training for working life customs, e.g., working in teams, and offered a broader view of working life and decision-making processes in general. They also noted that the instruction had: provided training in ethical decision-making in real-life situations; made them concretely aware of some of their future work duties; and/or given current information of and trained skills needed in the forest sector. Furthermore, almost half of the students reflected on the course content and compared that to real life either by pondering issues of business and working life in general, or by contrasting the weight of ethics and corporate responsibility in business life to the weight of business goals. An intriguing contradiction seems to have been created through applying ethics instead of business goals as the starting point for solving business-life problems. Hence, through drama a fictional "course life" was created, in which ethics was always the first choice. The students quite often felt that there was a contrast between real life and this course life. However, this "good friction" (see Korhonen et al. 2008) between drama and real life had given the students new ideas and insights into both ethical decision-making and real business life.

The students' opinions about their professional learning during the course were measured by administering six feedback questions. These were compared to a pre-questionnaire, in which the questions had appeared in a more general form that reflected the students' opinions of their university studies as a whole. According to the statistical analysis, there were significant differences between perceptions of the course and the university studies in general regarding four different questions. The students stated that the

course situations had resembled working life more than university studies as a whole do. Furthermore, the course had given students a sense of putting theory into practice and of solving working life problems. The students also felt that compared to their university studies in general, this course had made them more prepared for handling unforeseen situations in working life.

Considering the significance of educational drama as a learning method, two thirds of the students regarded the continuing storyline, the roles, and/or the drama in general as beneficial to their learning. However, many students wrote both negative and positive remarks about drama as a teaching and learning method. Especially individual role-taking was found to be rather difficult and artificial. It was also pointed out that some conventions (e.g., panel discussions, meetings, presentations) may be challenging to shy and introverted students. About 5% of the students only wrote negative comments about drama and considered drama as a childish or fruitless method for teaching or learning in higher education. In contrast, students, who wrote about the positive effects of drama, considered that the continuing storyline had concretised the substance, vivified learning and made it easier to see the connection between separate lectures. A number of students also felt that they had learned about the real-life problems and functions of the forest industry because of the (fictitious) storyline. Furthermore, some events during the drama workshops had triggered more general reflection on either the current challenges in the forest industry or on ethics in general, and certain drama conventions had offered students an opportunity to practice both negotiating and make public presentations.

6.3. Study III. Learning through role-play: Gaining features of work-based learning?

In Study III, the issues students reflected on in the students' learning journals can be grouped as follows: the whole term-long simulation activity as such; other educational elements of the course; expectations and anxiety over the role-play; group work and other group-related issues; social and interaction skills; self; and use of non-native language.

Regarding the students' learning outcomes in role-play, according to the learning journals, the students had learned: about the course content; to appreciate the idea of being well prepared for a work task; team work, social interaction and negotiation skills; about the significance of a group; to solve ill-defined problems; to cope with uncertainty. They had also had a chance to practise their English language skills. Furthermore, as an experience the role-play had given a feeling of putting theory into practice; an opportunity to practice real-life issues; a chance to learn from peers; a source of self-reflection; feelings of self-confidence and success; and motivation. However, the experienced lack of guidance and feedback gave the students a feeling of an incomplete learning experience.

As a whole, compared to work-based learning, drama-based role-play was able to entail several similar learning outcomes. Strengths and weaknesses for both learning methods could be identified. The detected strengths of role-play were: practising real-life situations in a safe environment; seeing that learning is not restricted to a particular work setting; enabling learning through reflection, and learning that conflicts between stakeholders can be avoided. In contrast, comparative weaknesses of role-play were identified: lack of support of senior colleagues; no contribution to the real world; may produce stereotypes; and personal anxiety due to the method.

6.4. Study IV. Fairness and using reflective journals in assessment

When examining all the learning journals, we found that both the Australian and the Finnish students were more likely to approach their learning journals at a low or non-reflective level. However, there was a statistically significant difference between the levels of reflection in the assessed final learning journals and in the weekly non-assessed learning journals, with the assessed journals more likely to be more reflective. Regarding the non-assessed learning journals only, the level of reflection was almost the same in the Australian and Finnish cohorts. However, regarding the assessed final learning journals, the Australian business students reflected on a significantly higher level than their Finnish peers (students of Forest Economics and Marketing) did.

Concerning gender differences, a statistically significant difference could be detected in the Finnish cohort regarding both the weekly and the final learning journals, with female students more likely to reflect on a higher level than their male peers did. However, in the Australian population no significant difference between the genders could be determined. In the Australian population, Bachelor's degree students' and Master's degree students' level of reflection in the learning journals could be compared. However, no significant difference between these two student groups could be identified.

In the Finnish student population, the first cohort studied in the classroom while the second cohort completed the course mainly online. Thus, the potential impact of educational design on the level of reflection could be investigated in the Finnish cohorts. However, no significant difference between the face-to-face and online cohorts could be detected. The Australian population had a large number of students who spoke English as their second language. The difference between the native and non-native speaking students was investigated. Regarding the non-assessed weekly learning journals, the difference was not statistically significant. However, when looking at the assessed final learning journals only, a significant difference between the native and non-native speaking students' level of reflection could be detected, with native speaking students performing better.

Concerning the attempt to develop a valid and reliable assessment process of a large number of learning journals, frameworks from other studies and educational contexts (such as Kember et al. 2008) were considered to provide a solid starting point. The qualitative assessment process required an active and collaborative approach by the marking team. Furthermore, it was essential that the assessors had sufficient time to calibrate their marking.

7. DISCUSSION

In the following, I shall first discuss the key findings related to the objectives of the whole dissertation and then assess the credibility of the research. A more detailed discussion of the findings related to the individual research questions can be found in Studies I, II, III and IV.

The main objective of this dissertation was to advance theories of learning in drama and learning in role-play, and, through empirical research, to develop teaching methods that further expert knowledge development in higher education. Furthermore, this study also explored learning journals as a tool for reflection and assessment. The overall purpose was to investigate the potential of educational drama and role-play in the higher education context, especially in the field of forest economics and marketing.

7.1. Drama and role-play as facilitators of expert knowledge development

As a summary of the findings of Studies I, II and III, it is fair to claim, that both drama and role-play seem to be able to enhance elements of expertise, and thus further professional growth. Interestingly, as Study I was based on short, two-session drama workshops, the findings of Study I also indicate that even a short exposure to drama can enhance awareness and understanding of conflicting opinions and perspectives. However, this is in contrast with several earlier studies indicating that a longer exposure is needed to gain the intended learning outcomes in drama (see Somers 1996). For instance, in a drama programme against bullying in schools, Joronen et al. (2011) detected that only the high-intensity intervention classes (minimum 9 exposures, i.e., once a month during the whole school year) had had an effect. Further, concerning management training through forum theatre, Gibb (2004) concludes that one afternoon session was not enough for essential learning. He (ibid.) highlights the value of preparation and follow-up as well as a longer process in facilitating change. On the other hand, in intensive university courses (such as in Study I) the circumstances are quite different from one-off management training or once-a-month drama interventions with school children. In both Ethics and the Forest Policy courses of Study I, the students had already been working on the themes for some while before the drama workshops. In other words, although the workshops as such were fairly short, in the university context it may be reasonable to regard the whole course as a supporting element to drama. This could also be described by the convention "mantle of the expert" (see e.g., Owens and Barber 2001), in which the participants assume the role of an expert, and the expert's knowledge is gradually developed through searching for more information.

7.2. Role-play vs. Work-based learning

The findings of Study III show that role-play can involve several similar learning outcomes as work-based learning. As already described in Chapter 6.3., the detected strengths of a drama-based simulation were: practising real-life situations in a safe environment; avoiding learning restricted to a particular work setting; learning through reflection, and avoiding potential conflicts between real-life stakeholders. Furthermore, comparative weaknesses of drama-based simulation were identified: lack of support by senior colleagues; lack of contribution to the real world; production of stereotypes; and anxiety due to the method.

There are ways to tackle at least some dimensions of the identified comparable weaknesses. However, contribution to the real world is an issue that needs careful consideration. If there are genuine clients involved, the independence from other stakeholders can be endangered. The lack of senior colleagues in the classroom situations can be partly covered by integrating excursions and/or guest lectures into courses. These can provide students with knowledge and expertise that senior colleagues normally would offer. Of course, this would require that the guest lectures and hosts of excursions would be willing to act as tutors. Next, stereotypes can be avoided if the teachers are alert and aware of the possible stereotypes in question. The teachers should also be ready to address stereotypes with students, if needed.

Finally, the potential anxiety because of the method should indeed be taken seriously. Furthermore, besides in role-play, the anxiety seems to be present in drama workshops as

well (see Chapter 6.2. and Study II). This issue of potential anxiety caused by role-play and drama is discussed further in Chapter 8.3.

7.3. Drama vs. Role-play

In the drama and the role-play literature, the scholars seem to agree about one thing: there has to be a distinction between these two forms of learning. For instance, O'Toole (1992) argues that in role-play the roles and the learning outcomes are more predefined and thus he considers role-play a more restricted form of learning than drama. On the other hand, van Ments (1999) wants to distinguish between role-play and drama, because he considers drama to be more about free expression than a constrained situation, and that in drama there is "no question of checking the validity of actions against real life, or analysis afterwards of how the situation may have been handled differently" (p. 177).

However, according to this study, when professional and expert knowledge development were set as the targeted learning outcome, drama and role-play did not appear to deviate that much from each other as forms of learning. Even based on the theories—if we compare the theories of expert knowledge development with the theories of learning in drama and learning in role-play—both drama and role-play seem to be able to further all three components of individual expert knowledge: formal knowledge, practical knowledge, and self-regulatory knowledge (see Figures 2 and 3, Chapter 3.6.). The findings of Studies I and II (drama) and Study III (role-play) supported this proposition. Role-play has more rules, more pre-set goals and more real-life resemblance, whereas drama gives more room to the imagination.

Furthermore, based on Study III, role-play appeared to be a fairly constructivist form of learning, although simulations, and thus role-plays, are often associated with behaviourism (see Chapter 3.3.1.). According to Tynjälä (1999), constructivist pedagogy highlights understanding and it is based on social interaction and collaboration in meaning making. According to the findings of Study III, the students had developed their know-how of business negotiations through teamwork and the role-play activity, and at least in this case, role-play seemed to be more about enhancing understanding than memorising or reproducing information. Hence, the underlying paradigm was closer to constructivism than behaviourism.

However, when looking more closely at the qualitative findings of Studies I, II and III, the direction of reflection appeared to be different after drama and role-play. After role-play, the students reflected on a number of issues, but these issues were prominently connected to the substance of the course or the role-play (Study III). Even the self-reflection was mostly about evaluating individual skills or challenges regarding similar situations in working life. However, after the drama workshops, besides reflecting on the drama events and the theme, the students also reflected on their inner beliefs and values as well on the surrounding world in general (Studies I and II). They also questioned the underlying premises. Thus, the reflection after role-play seemed to stay within the limits of the phenomenon studied, whereas after drama the reflection was also more "out-of-the-box". This is illustrated in Figure 5.
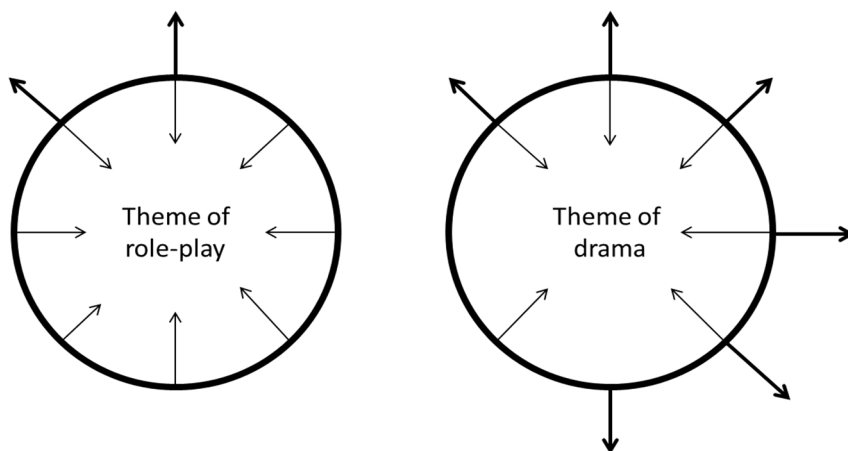
Figure 5. The direction of reflection after role-play and drama

7.4. The significance of drama as an art form

In order to find a reason for the different directions of reflections shown in Figure 5, it is worthwhile to go back to the findings of Studies I and II. In those Studies, regarding Study II, ethics as a subject seemed to have given prompts for reflecting on underlying premises and values. Thus, it is quite probable that this was the case in the Ethics course in Study I, as well. However, because the students of the Forest Policy course (Study I) also had reflected on underlying premises, there are grounds to look for additional explanations. According to the findings of Study I, there were seven elements identified in the drama workshops that triggered new points of view and wider understanding. These could be summarised as: fictional (dramatic) context of the drama; single incidents within the drama workshop; emotions involved during the drama workshop; different roles and role taking; discussions; dramatic tension and different drama conventions, and the heterogeneity of the group. In Study II, in addition to the individual elements of drama and ethics as a substance, the conflict between "the drama world" and real life was identified as a source of new ideas and insights into both ethical decision-making and real business life.

Hence, the question arises: is there something in drama that does not necessarily exist in other forms of experiential learning, such as role-play? In Figure 2, learning in drama is illustrated as consisting of four elements: learning the theme; learning social skills; learning about oneself, and learning drama as an art form/learning in an art form. The fourth element concerning drama as an art form was left "idle", when equivalents between expert knowledge and learning in drama were marked with arrows. However, drama is an art form (see Chapter 3.2.1.), and learning in drama involves learning through the artistic elements. In drama, as argued by Bolton (1985; see Chapter 3.2.2.), the essence is in the interplay of fiction and reality. Thus, although the art form as such was not needed for learning the elements of expert knowledge, it did not disappear anywhere. Instead, it may have entailed additional but different types of learning outcomes: reflection and critical reflection on the underlying premises.

By combining Figures 1 and 2, and by amending Figure 1 with critical reflection as a vital element of expertise development (Mezirow 1990; see chapter 3.1.2.), a more thorough picture of fostering professional growth through educational drama can be unveiled. This is illustrated in Figure 6.

In Figure 6, the art form is now linked to the process and the way of furthering expertise, i.e., to problem-solving, social interaction, reflection and critical reflection. These linkages can be validated through both the literature and the findings of this study, which I will do in the following. According to Eisner (1992), one of the important lessons learnt from arts is that not all problems have single, correct answers. Similarly, Gibb (2004) argues that improvisational theatre, as a form of arts-based training, has the potential to involve participants in a problem-solving process. In Study II, the students also felt that they had learned to solve real-life problems through drama. Thus, it can be argued that the artistic element of educational drama includes and enhances problem solving.

Next, as already earlier argued, drama is a social art form, and in order to learn through drama, the experience has to be reflected upon (see Chapter 3.2.2.). Social learning in the form of teamwork skills was one of the learning outcomes of Study II, and in Study I, group discussion was one of the elements that had triggered learning. Concerning reflection, Hughes (2011) argues that arts-based learning as such encourages alternative perspectives and involves unusual and innovative practice as a tool of reflection. Hence, educational drama advances both social interaction and reflection that are essential in expertise development.
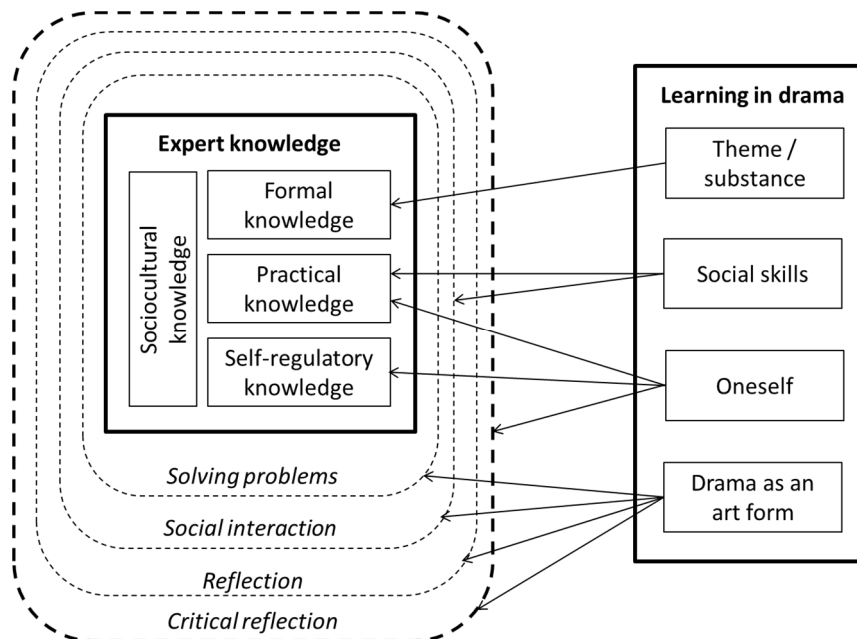

Figure 6. A revised framework of connections between expertise development and learning in drama

When discussing critical reflection and critical self-reflection, Mezirow (1990) argues that being exposed to divergent viewpoints may begin a process of critical reflection that makes the student realise his or her own points of view and, if needed, sometimes may lead to perspective transformations. According to the findings of Study I, drama workshops were able to enhance awareness of different perspectives, and thus they may have triggered critical reflection. Accordingly, Laakso (2004) claims that through drama the student may be able to find new points of view, understand different ideas, and develop a personal stance towards the topics being investigated. In addition, Gibb (2004) argues that improvisational theatre allowed the participants to become better able to realise the kinds of assumptions and values they were projecting onto the drama events, as well their possible biases. Gibb (ibid.) uses the mirror as a metaphor arguing that drama and the characters provide a mirror in which the participants were able to see themselves in new ways. Therefore, it is reasonable to argue that drama as an educational tool can trigger critical reflection, and thus it can also act as a vehicle to advance expertise development.

In conclusion, the artistic element of educational drama seems to be able to address all the important elements of the process of expertise development: problem-solving, social interaction, reflection, and critical reflection. Furthermore, learning through drama also addresses all three elements of individual expert knowledge, i.e., formal, practical and self-regulatory knowledge. Therefore, it is justifiable to argue that educational drama has the potential to advance expertise development, and the artistic element of drama may have a particularly significant role in this process.

7.5. Assessing learning journals

Study IV highlighted the difficulty of creating a valid framework for a fair assessment of reflective writing in learning journals. Like so many researchers before us (see Dyment and O'Connell 2011), we also came up with a revised framework, because the originally adopted framework (Kember et al. 2008) did not produce valid results. By fine-tuning the original framework with an additional category, we were able to better explore the borderline between reflection and the lower levels of writing. However, while we two assessors in Study IV finally managed to work out a valid and reliable assessment process, it is important to accentuate the amount of collaboration and time that was needed to accomplish it.

7.6. Credibility of the research

7.6.1. Reliability and validity of the research

There are no clear guidelines for assessing quality in qualitative research. Researchers from different paradigms have had different viewpoints ranging from adopting criteria from quantitative research to totally rejecting the idea of developing criteria for qualitative research (O'Cathain 2010). Furthermore, in mixed methods research, there has been discussion whether the quality of a mixed research study should be assessed by using some generic criteria across all study designs, or on the basis of its single components, or by developing quality criteria that address the whole mixed methods study (ibid.). Hence, because there are no widely accepted criteria for determining quality of mixed methods

research study, In the following, I will explain how credibility has been taken into consideration in the single sub-studies of this dissertation.

Silverman (2011) argues that there are two central concepts in any discussion of credibility in scientific research: reliability and validity. According to Silverman (ibid.), reliability "refers to the degree of consistency with which instances are assigned to the same category by different observers or by the same observer on different occasions." (p. 188). In this dissertation, the main source of data is learning journals. According to Silverman (2011), in principle textual data can be considered reliable as such, and the issue of reliability then only concerns the categories used in the analysis. The categories should be used in a standardised way, i.e., any researcher would categorise the data in the same way. Silverman (ibid.) proposes inter-coder reliability as a method to ensure standardized use of categories. In Studies I, II and IV, inter-coder reliability was checked as suggested by Silverman. In Study III, we used co-researcher dialogue, as suggested by Graneheim and Lundman (2004), as the adopted approach to ensure reliability. The processes of determining inter-coder reliability as well conducting co-researcher dialogue in the sub-studies are explained in more detail in Chapter 5.1.

Validity refers to the authenticity of the findings, i.e., that the study has measured accurately what it was supposed to measure. According to Lincoln et al. (2011), validity concerns both the rigor of method and interpretation. However, they (ibid.) also argue that although some methods may more suitable for conducting research on certain phenomena, no method can be considered good or bad as such. Regarding methods in this dissertation, the motivation and rationale of using each method are explained in Chapter 4.4.

As argued earlier in Chapter 4.10, one of the reasons for using the mixed methods approach in this dissertation was to increase the validity of the findings. According to Morse (2003), triangulation is the combination of the findings of two or more studies conducted in order to provide a more comprehensive picture of the findings than either study could do alone. Thus, mixing methods as such can be seen as a form of triangulation. The different methods used in each sub-study are presented in Figure 4.

In Study II, the survey questions were based on theories of expertise and expertise development. The questionnaire was pre-tested on another course, and unclear wording was revised prior to using the questionnaire in Study II.

Regarding the validity of the interpretations, I have reported the process of analysis in each of the sub-studies very carefully in order to explain the different phases leading to the final interpretations. In Studies I and II, I have also presented some counted figures in order to illustrate the prevalence of the identified phenomena, and in Study IV statistical methods have also been applied on the quantified data. Furthermore, in Studies I, II and III, the identified findings were accompanied by quotations from the learning journals in order to give the reader an opportunity to better judge the interpretations in relation to the data. Finally, in Study III, co-researcher dialogue was also used in order to increase the validity of the interpretations.

In summary, due to the lack of generally accepted criteria for determining the quality of mixed methods research study, the credibility of this dissertation was considered through the reliability and validity of the individual sub-studies. In the sub-studies, inter-coder reliability and co-researcher dialogue were used as the main methods to increase and check the reliability of the research. The validity of the findings was increased by using a mixed methods approach and carefully reporting all the phases of the analysis. Because the researcher's prior assumptions and experience with the field of research may also have an impact on the credibility, these aspects are discussed next.

7.6.2. Researcher's prior assumptions and experience with the research topics

According to Mays and Pope (2000), in order to enhance the credibility of qualitative research, the researcher's prior assumptions and experience with the research topic should be made visible to the reader In the following, I shall briefly describe my earlier involvement in the main fields of this dissertation, i.e., Forest Economics and Marketing education, drama, role-play and learning journals.

I have a Master's of.Science degree in the field of Forest Economics and Marketing, and thus I know the context of this dissertation from the very inside. I have acted as a part-time teacher at the Department of Forest Sciences (formerly Department of Forest Economics) since 1992; the courses that I have taught range from financial planning to professional ethics. For me. drama as an educational tool appeared in the middle of the last decennium, and I completed a 2.5-year professional development (PD) programme at the Theatre Academy of Finland (Continuing Education) in 2005. Since then I have designed and facilitated dozens of drama workshops, mostly in formal education, but also in university staff and the "third sector" (voluntary sector) training. I have also been interested in developing other types of experiential learning approaches, such as role-plays. However, it may be appropriate to point out that I have mostly used other, more conventional methods in my teaching, such as interactive lectures and group works.

Almost without an exception, I have used learning journals as a tool for reflection in my courses. Furthermore, from the very start, I have been interested in exploring what students learn and experience in drama or role-play. Thus, I made my first study in this area based on learning journals in 2005. It is fair to argue that over the years my research results and the constant feedback gained through the learning journals have affected my teaching approach. In Chapter 8.3, I have gathered some of my observations in the light of the findings of this dissertation.

7.6.3. Methodological concerns

Some limitations are associated with the sub-studies and thus the whole dissertation. First, all studies relied heavily on learning journals as the main source of research data. Although the findings were complemented with findings based on a survey (Study II) and a focus group interview (Study I), it would have been beneficial to have a more diversified array of research methods in order to get a more thorough picture of the phenomenon.

Second, the quality of the learning journals may also be a limitation of this research. The reflective journals were short, approximately one to two pages long. Furthermore, in Studies I, II and III, only one learning journal entry per student was taken into analysis, and in two of the included courses, this was the only journal entry written during the entire course. According to Moon (1999), reflective writing should occur over a certain period, and the learning journals would consist of this accumulated material. However, there are also examples of using single (e.g., Pearce and Jackson 2006) and even the only (e.g., Wong et al. 1995) reflective writing entries as research data to detect students' learning experiences.

Third, the level of reflection in the single, and the only, journal entries in Studies I and III may cause a methodological concern. However, because the main target in these studies was to determine what the students were writing *about* in their journals, the reflective level is not necessarily crucial for the research data. In addition, in both studies after the drama workshops and prior to writing the learning journals, there was time reserved for reflective

discussions that are argued to enhance reflection (e.g., Moon 1999, Fenwick 2001, Hiemstra 2001). Furthermore, at the time we were planning the educational settings for Study III, we already had the findings of Study IV at our disposal, and thus knew that we could improve the quality of reflection in learning journals by assessing them. However, we also realised that students probably need more support for reflective writing. Hence, although we chose not to assess the learning journals, we adjusted the learning journal instructions and gave students more prompting questions in order to facilitate deeper reflection. As argued earlier, according to Nückles et al. (2010), prompting questions can support journal writing especially when the students are unfamiliar with the learning journal method. Furthermore, we also spent more class-time to motivate students to reflection and reflective writing.

Fourth, the limited amount of research data may also cause a methodological concern. Due to the context (Forest Economics and Marketing), course sizes are small, and thus the number of learning journals per case was bound to remain at a low level. Therefore, the amount of research data available in most of the sub-studies was restricted. This was, however, a deliberate choice. Because this dissertation can be considered a pioneer work in using drama and role-play in the field of Forest Economics and Marketing, I wanted to have different cases to study, in order to gain a broader view of the phenomenon. Therefore, instead of using more research methods per case, I chose to study more cases. In the future, it will be worthwhile to make more in-depth studies in the area through interviews.

7.6.4. Implications for further research

The first suggestion for further research stems from issues discussed in Chapter 7.1. The mixed findings between this study and earlier studies (e.g., Joronen et al. 2010, Gibb 2004) regarding the effects of short drama workshops warrant further research. Next, findings concerning the direction of reflection (illustrated in Figure 5) and the revised framework of connections between expertise development and learning in drama (Figure 6) are also in need of more study. The findings of this dissertation revealed an interesting link between the process of expertise development and the artistic element of drama, and more research in this area would certainly be welcomed.

Furthermore, all the sub-studies of this dissertation concentrated on analysing the immediate reflections and effects of drama and role-play, and there were only three different course subjects included (ethics, forest policy and business-to-business marketing). Thus, it would be worthwhile to extend further studies to the possible long-term impacts of drama and role-play as well to cover a broader set of topics in different contexts. As discussed in the previous chapter, study designs could also include different research methods, including, for instance, interviews.

The findings of Study IV indicated that gender and the prevailing culture may have an effect on the students' readiness or ability to reflect on learning. This issue deserves to be studied further. Furthermore, it would be worthwhile to study similar background factors regarding learning through drama and role-play. In addition, because higher education in forestry is becoming increasingly international (see Chapter 1.2.), the issues concerning learning in multicultural groups should also be the focus of future research on educational drama and role-play. Finally, the findings of Studies II and III revealed that drama and role-play may also cause anxiety in some students. If drama and role-play are to be advocated as feasible educational tools in higher education, it would be essential to study this issue further.

As argued earlier, this dissertation can be regarded as a pioneer work in using drama and role-play in the field of Forest Economics and Marketing. Thus, there are several issues to be covered in future research. I hope that the findings of this work can, for their part, lead to further studies in these fields.

8. PRACTICAL IMPLICATIONS

8.1. Implications for higher education in general

The findings of this dissertation support the use of drama and role-play as educational tools to further professional expertise in higher education. As argued earlier, the integration of theory, practice and self-regulation is vital in the development of professional expertise (Chapter 3.1.3.). The findings of Studies I, II and III indicate that role-play and educational drama can be regarded as promising tools to enable this integration.

In addition, concerning workplace and work-based learning, higher education can benefit from drama and role-play. While real-life experiences cannot always be arranged for students, drama and role-play can act as supplementary learning methods alongside with work-based learning. If the objective is to simulate real-life and to learn particular working-life practices, role-play seems to be an interesting option to be applied in higher education.

Drama, in turn, appeared to be a promising tool to widen students' perspectives and to further their tendency to engage themselves in reflection and critical reflection. Reflection and critical reflection are regarded as crucial elements in the development of higher order thinking skills and expertise, and therefore they are very widely considered to be essential in higher education (Mälkki 2011, Dyment and O'Connell 2011). However, the findings of this dissertation highlight the notion that reflective skills do not necessarily develop by themselves (see Study IV), but they should be nurtured. Hence, the artistic element of educational drama as an initiator of reflection and critical reflection makes drama especially interesting as a learning method, as illustrated in Figure 6.

Besides paying attention to reflective skills in general, the findings of this dissertation revealed a possible need for a more extensive support for particular student groups. The findings of Study IV indicated that non-native speaking students and male students might face challenges in reflective writing. Thus, there is a need to recognise the diversity of the student population, when learning journals and other reflective writing assignments are used as educational and assessment tools.

8.2. Implications for Forest Economics and Marketing education

The findings of this dissertation (see Study IV) revealed the low levels of reflection in the learning journals written by the Finnish students of Forest Economics and Marketing. Compared to Australian business students, the Finnish students' level of reflection was lower especially in the final journals where students were supposed to crystallise their learning outcomes of the whole course. Furthermore, the male forest students showed lower levels of reflection in their learning journals than their female peers.

As argued earlier, reflection is considered as a crucial element in expertise development, in different experiential learning approaches as in workplace learning (see Chapter 3.5.1.).

The findings of this dissertation (see Studies I, II and III) indicate that both drama and role-play can deliver several beneficial elements to Forest Economics and Marketing education. However, if the students' level of reflection cannot be deepened, the efforts to integrate experiential learning methods in the curriculum may be in vain. Furthermore, Edwards et al. (2002) regard the development of reflexivity central to lifelong learning. Thus, whatever the reason behind the low levels of reflection, the situation warrants calls for increased attention and support for students. Reflection and reflexivity should increasingly be taken as educational objectives in their own right.

8.3. Issues in using drama and role-play as educational tools in higher education

First, as discussed in the earlier chapters, although both role-play and drama can be considered eligible tools in furthering elements of professional development, each of them has particular strengths and weaknesses as a teaching method (see Chapter 7.2.). Thus, besides knowing the objectives of teaching, teachers should also be aware of the type of learning these methods develop. Based on the findings of this dissertation, it can be argued that role-play is well suited for the training of a specific skill or for acting in a real-life situation (see Study III). By nature, role-play is a form of simulation, and the underlying idea is that the more it resembles real life the better. This makes the participants look for viable ways to handle real-life situations, which then means that role-play does not necessarily tempt students to try unconventional or fresh ways to act. Drama on the other hand, leaves more room for imagination than role-play, and instead of real-life resemblance, the fundamental elements of drama are fiction and distancing (see Chapter 3.2.2). The basic notion is that drama is an art form. According to the findings of this dissertation, the artistic elements of drama can provoke new points of view, as well as thinking that is outside the actual drama or its theme. The findings also indicate that drama can provoke critical reflection, e.g., on oneself or on the foundations of the theme of the workshop.

The second issue to consider further is the notion that drama indeed is an art form. As discussed in Chapter 4.1., when teaching through art the teacher has to know principles of the art form as well as art education, and also act according to them (see Varto 2009). Similarly, according to Somers (2008), teachers who use drama as a teaching method should be well aware of the principles of teaching through drama, and they should also have a sound understanding for the art form. In my opinion, this also means that if the artistic elements remain unacknowledged when using drama as a teaching method, the teaching sessions may frustrate both students and teachers, because the learning outcomes are bound to be different from objectives and expectations.

Third, according to the principles of constructive alignment (Biggs 1996, 2007), the intended learning outcomes should guide the process of choosing appropriate teaching and assessment methods. Of course, this principle is also applicable when considering the use of role-play or drama as educational tools. If either drama or role-play is used without an appropriate purpose, the results will most likely be unsatisfying for both students and teacher. In other words, the teaching method should never be an end in itself.

Fourth, according to the findings of this dissertation, drama and role-play may also cause anxiety in students (see Studies II and III). Even the mere words "drama" or "role-play" may be the source of this anxiety, because of the connotations of performing and acting onstage. In addition, shy and introverted students may feel uncomfortable or even excluded in some drama conventions and role-plays (see Study II). The anxiety caused by

the false expectations should be taken into account when introducing the method to the students. It is essential to explain the objectives of the teaching and describe the working methods. For the same reason, if the choice of teaching methods has to be printed out in advance, e.g., in a study guide, it is worthwhile to include an explanation of how drama and role-play will be used. During the actual workshops, I agree with van Ments (1999), in recommending that the whole idea of role-playing should be approached in a gentle and gradual manner, either through warm-up games or by a systematic process leading to the role-play. The same steps should also be taken when introducing drama.

Regarding the anxiety caused by some single drama conventions or situations in a role-play, the teacher should be able use a variety of conventions in order to allow all kinds of students a fair chance to participate. On the other hand, for a student, learning in drama or role-play may also occur through stepping out from his or her own comfort zone; in such cases, the teacher should encourage the students to extend their personal limits. In other words, to facilitate a drama workshop or role-play requires a certain amount of empathy, and a teacher should have an eye for the different students' readiness for different tasks.

Fifth, the findings of this dissertation indicate that some university students tend to be sceptical about the benefits of drama or role-play, and consider these childish or fruitless ways of learning (see Studies II and III). While I agree that not everyone can be pleased, I refer to the earlier discussion concerning the value of explanations, i.e., an explanation of what drama or role-play is about and the reasons why either of them was chosen as the teaching method. According to my experience, students (at least in the forest sciences) are inclined to expect a certain level of seriousness in their university education. Therefore, if the teacher—without any explanations or justifications—suddenly asks students to throw themselves into a humorous warm-up game, the students very likely feel uneasy. Hence, the theoretical foundations and the rationale behind teaching through drama or role-play should be explained prior the workshop (or any warm-up games) in order to help students feel more assured of the validity of the teaching method, and thus they may also be more apt to join the actual activity. Based on my discussions with drama teachers from other levels of education, I presume that in higher education the teachers have to explain their activities more, and it is also desirable to have research to prove that drama and role-play are viable methods to learn.

Finally, when using drama and role-play as educational tools in higher education, theories of expert knowledge can also be considered. According to these theories, there are four issues of concern when a person wants to excel in an area: formal knowledge; practical knowledge; metacognitive (or self-regulatory) knowledge, and sociocultural knowledge (see Chapter 3.1.2.; Bereiter and Scardamalia 1993, Tynjälä 1999, 2010). There is a body of literature and practical guides concerning both drama and role-play for gaining formal knowledge of these teaching methods. This dissertation is also one attempt to cast more light on the issue. In the previous chapters, some of the more practical guides are cited (e.g., Bowell and Heap 2001, Owens and Barber 1997, 2001, van Ments 1999, Sutcliffe 2002). However, according to the theories of expert knowledge, formal knowledge is needed, but it is not enough. When striving towards expertise, the next steps to take are practice and reflection on practice. Hence, one just has to start somewhere and then develop one's skills through practice and reflection. It is not a quick way, but I am convinced that it is the only one. However, the fourth element of expert knowledge, sociocultural knowledge, may become helpful at this phase. Co-teaching with a more experienced drama or role-play practitioner would be an ideal solution, although I admit that it may be challenging to achieve sociocultural knowledge in this particular area. University teaching is very often

done alone, and it may be difficult to find suitable co-teachers. However, one way to tackle this challenge is to take part in courses, workshops and conferences in the field of drama or role-play. Through interacting with other teachers and practitioners in the area, it is possible to gain more insight into the sociocultural knowledge of the field.

9. CONCLUSION

The findings of this dissertation reveal that drama and role-play can be considered worthwhile learning and teaching methods in higher education. Both methods seem to be able to involve several learning outcomes that are needed in the development of professional expertise. Furthermore, while real workplace placements cannot always be arranged for students, role-play can act as a supplementary learning method alongside work-based learning.

However, there was a difference in the direction of reflection after drama and role-play. Based on the findings of this dissertation, it can be argued that role-play suits well to situations in which the learning objective is to enhance learning and reflection on a specific topic or skill. In contrast, the strength of drama lies in "looking beyond" (see also, e.g., Neelands 2004, Owens 2005, 2006, Laakso 2004), i.e., in critically evaluating underlying premises and presuppositions of the topic of learning. In other words, if students are to develop their knowledge and skills within a certain frame, role-play may be a more appropriate choice as a teaching method than drama. However, if students are asked to discuss and question the legitimacy and validity of this specific frame and their personal stance towards it, then drama is likely to outperform role-play.

It was concluded that the artistic element in drama particularly enhances reflection and critical reflection. Thus, the artistic element makes drama unique as a learning method compared to the non-artistic experiential learning methods. Hence, although drama can produce similar types of learning outcomes as role-play, it is recommended to also acknowledge its artistic element and respective learning objectives alongside the substance objectives. Somers (2008) claims that the more students understand how drama works, the more autonomous and empowered they will be in the learning situation. In other words, to overlook the arts dimension in drama is to disregard the benefits of its essential character.

The findings of this dissertation also accentuate the notion that reflective skills do not develop by themselves, but they should actively be fostered in higher education. Furthermore, critical reflection is about questioning the underlying premises, and one could claim that this is exactly what is needed in the forest sector at the moment, when the whole sector is looking for new paths to follow (see e.g., Forest-based technology platform 2010, Nair 2004). Hence, the possibility to further critical reflection through educational drama can be seen as an interesting but underutilised opportunity for forest sciences education.

As argued earlier, university graduates should be provided with various generic skills before they enter working life (e.g., Tynjälä et al. 2006, Ackerman et al. 2003, European Parliament and Council 2006), but there is a gap between higher education and the needs of working life (e.g., Arevalo et al. 2010, Xia et al. 2012). This dissertation introduced drama and role-play as promising tools to enhance many of the needed skills, and help fill the gap. The chance of enhancing professional growth through drama and role-play is thus worth considering in any discipline in higher education. After all, to provide students with

opportunities to gain knowledge and skills they need in their future lives is relevant and essential to all parties: academia, the work place and the individual student.

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APPENDIX 1

STUDY I, PROMPTING QUESTIONS FOR LEARNING JOURNALS

Course: Ethics and Social Responsibility in the Forest Sector, 2005

This week's learning journal is divided into two sections:
1. The "ordinary" learning journal
   - Read your learning journal entry from last week regarding the operating principles of a good company. After this week's drama workshop, would you write something differently? Or have your ideas remained the same?
   - No need for literature references.
   - The text may be shorter than usual (less than one page)
2. Free form of thinking and reflection; style resembling a personal diary
   - The objective is to reflect on personal thoughts and feelings evoked by the drama workshop.
   - Reflect on, did you during the workshop (or because of the reflective discussions) learn/realise/become aware of something significant to yourself? Did you realize new viewpoints or did you change your way of thinking about some issues?
   - Tell also, what you think of drama as a teaching method. In your opinion, what could be learned or taught through drama?
   - Length of the text app. 1 page

Course: International forest policy–implications at the national level, 2006

Prompting questions (given in writing):
   - What did you learn today?
     a) in general
     b) of yourself
   - Length of the text: one page

Additional question (given verbally):
   - What are your impressions of drama as a teaching method?

APPENDIX 2

STUDY II, GUIDELINES FOR THE FINAL LEARNING JOURNAL

Course: Ethics and social responsibility in the forest sector, 2007

The last learning journal entry has two parts. The first part is the actual learning journal, and it will be assessed. The second part is for collecting feedback of the course and especially of the way it was executed. This latter part is naturally not assessed and it has no effect on the course grade.

PART 1, the actual learning journal

The general objective of the final learning journal is to bring out your learning and development outcomes. In a way, you are also making a summary of the gains of the course for yourself. The other objectives are: to analyse the learned issues, to see them in a wider context, and to interlink them with your earlier knowledge.

Before starting to write your learning journal, read through all the single learning journal entries you have written during the course. While reading, consider the following:
- Do you still agree with the text you had written earlier?
- Can you detect any change in your thinking, actions, self-knowledge, etc.?
- Have you gained an insight into something significant (for yourself) during the course?
- Based on the journal entries, what have you learned during the course?

The idea is not to describe what happened or what was done, but more to discuss what sort of ideas you came across and what did you learn. The following questions may help you when writing the final learning journal:
- What did you learn? (What did you learn about the course topic, ethical decision making? What else did you learn? - Consider learning as widely as possible.)
- What does this learning mean to you?
- Why is this learning/experience significant/beneficial/important to you?
- How does this learning/experience affect your way to act?
- What does this learning/experience tell you about your values and objectives in life?
- What should you take notice of in the future? / How could you improve your activities? What does this mean as concrete actions?
- What was left unclear?

Remember to give arguments for your views!

In a good learning journal, there is often:
- elaboration of theory/learned issues and applying them in new contexts

- examples of how theory/learned issues could be applied or how they can be seen in real life
- concepts mentioned in the study material (remember to use them right!)
- good questions—and preferably good answers, too
- self-reflection, in other words, thinking and writing that shows and develops your self-knowledge

PART II, feedback

This was the first time this course was executed in the form of workshops that were based on group work and students being members of a managing group of a fictional factory. All the exercises were connected with the same underlying story of the IFP forest industry conglomerate and its mills. We took advantage of permanent student groups, roles and a continuing storyline. The students gained theoretical knowledge through reading scientific articles and the course hand-out, and by discussing with the teacher during the group work. Learning was deepened through writing learning journal entries after each workshop.

What do you think of this way of teaching? Was the continuing storyline a viable choice? Was it a good or a bad choice to have permanent student groups? What worked well, and what should be improved? Would you recommend this type of course to other students? …

Our aim is to develop the course for future years, so we are genuinely interested in all your opinions and suggestions for development.

Thank you for your cooperation!

Henriikka and Kirsi

APPENDIX 3

STUDY III, GUIDELINES AND PROMPTING QUESTIONS FOR THE LEARNING JOURNAL

Course: Industrial Marketing in Forest Sector (2009 and 2011)
- The length of the learning journal is 1-2 pages
- Submit your learning journal by December 2nd through Moodle
- All material will be treated as confidential
- This learning journal will not affect your course grades; however, it is mandatory to write it.

Questions to ask yourself before writing about a learning event:
- What did you think the key concepts studied meant? (i.e., what preconceptions do you bring with you to this learning event?)
- What experiences, if any, have you had with the topic (of study)/this learning event, e.g., at your school, in your community, at your workplace?
- How have these experiences influenced your *assumptions* about the topic (of study)/learning event?
- What is important to you about the topic (of study) /learning event? (i.e., what *values* do you think should guide us?)
- What *beliefs* do you hold about how decisions are made in this topic/learning event? (i.e., what do you think really happens?)

A good structure for a learning journal can be:
1. A short description: what happened during the learning event?
2. What did you do yourself/How did you act during the learning event? How was your team working?
3. How would you assess your own actions? What did you do well? What could you improve?
4. What did you learn? And why was this learning important/essential? Think about your learning as widely as possible.
5. How would you assess this learning event based on your previous knowledge and based on the taught issues during the course?
     - Can you find links to theoretical knowledge? What are the links between this learning experience and the rest of the course? What are the links between the learning experience and your previous knowledge?
     - How could your perceived learning be applied in the real (business) life. What links can you find between your learning (during this learning event) and real life?
6. How would you assess this learning event as *an experience?*
     - Why is this experience important to you? How is it linked with your experiences in other situations? How does it affect your way of acting? What does your experience tell about your values and targets?
7. What should you take notice of in the future? / How could you develop your actions / way of acting in the future
     - What does this mean (concrete actions)?

Bourner (2003): **Questions to help reflective thinking**
1. What happened that most surprised you?
2. What patterns can you recognise in your experience?
3. What was the most fulfilling part of it? And the least fulfilling part of it? What does the experience suggest to you about your values?
4. What happened that contradicted your prior beliefs? What happened that confirmed you prior beliefs?
5. How do you feel about that experience now compared with how you felt about it at the time?
6. What does the experience suggest to you about your strengths?
7. What does the experience suggest to you about your weaknesses and opportunities for development?
8. How else could you view that experience?
9. What did you learn from that experience about how you react?
10. What other options did you have at the time?
11. Is there anything about the experience that was familiar to you?
12. What would you possibly do in a different way now–based on your experience and your reflection on it? What concrete actions does your reflection lead to?

APPENDIX 4

STUDY IV, PROMPTING QUESTIONS FOR THE WEEKLY LEARNING JOURNALS

Year 2007

These guidelines are directive and you do not have to follow word by word, as long as all the issues are covered in your text.
1. A short description of what happened during the exercise (a few lines is enough)
2. What did you do? / How did you act during the exercise? How did your team work?
3. How would you assess your own behaviour or actions? What did you do well, and what should be improved?
4. What did you learn? And why is it significant/beneficial/important to learn this?
5. How would you evaluate the learning situation as an *experience*?
   - Why is this learning/experience significant for you? How does it interlink with your other experiences? How does it affect your way to act? What does it tell you about your way to act? What does it tell you about your values and objectives in life?
6. What should you take notice of in the future? / How could you improve your activities?
   - What does this mean as concrete actions?

Year 2008

What goes into a good learning journal entry?
1. Description: what happened?– short and factual
2. Personal experience: what was I thinking and feeling?
3. Evaluation: what was good and bad about the experience?
4. Analysis: what sense can I make from this experience? What does it mean to me/my team/future/society etc.?, how should I react?
5. Confrontation: what *values, beliefs and assumptions* did I carry into this experience? How did they reflect on my thinking and behaviour in the situation?
6. Reconstruction: what could I have done differently? How will I use my learning in the future?

Questions to ask yourself before writing about a learning event:
   - What did you think the key concepts studied meant? (i.e., what preconceptions do you bring with you to this learning event?)
   - What experiences, if any, have you had with the topic of study/learning event, e.g., at your school, in your community, at your workplace?
   - How have these experiences influenced your *assumptions* about the topic of study/learning event?
   - What is important to you about the topic of study/learning event? (i.e., what *values* do you think should guide us?)
   - What *beliefs* do you hold about how decisions are made in this topic of study/learning event? (i.e., what do you think really happens?)

APPENDIX 5

STUDY IV, PROMPTING QUESTIONS FOR THE FINAL LEARNING JOURNALS

Year 2007

The general objective of the final learning journal is to bring out your learning and development outcomes. In a way, you are also making a summary of the gains of the course for yourself. The other objectives are: to analyse the learned issues, to see them in a wider context, and to interlink them with your earlier knowledge.

Before starting to write your learning journal, read through all the single learning journal entries you have written during the course. While reading, consider the following:
- Do you still agree with the text you had written earlier?
- Can you detect any change in your thinking, actions, self-knowledge, etc.?
- Have you gained an insight into something significant (for yourself) during the course?
- Based on the journal entries, what have you learned during the course?

The idea is not to describe what happened or what was done, but more to discuss what sort of ideas you came across and what did you learn. The following questions may help you when writing the final learning journal:
- What did you learn? (What did you learn about the course topic, ethical decision making? What else did you learn? - Consider learning as widely as possible.)
- What does this learning mean to you?
- Why is this learning/experience significant/beneficial/important to you?
- How does this learning/experience affect your way to act?
- What does this learning/experience tell you about your values and objectives in life?
- What should you take notice of in the future? / How could you improve your activities? What does this mean as concrete actions?
- What was left unclear?

Remember to give arguments for your views!

In a good learning journal, there are often:
- elaboration of theory / learned issues and applying them in new contexts
- examples of how theory / learned issues could be applied or how they can be seen in real life
- concepts mentioned in the study material (remember to use them right!)
- good questions - and preferably good answers, too
- self-reflection, in other words, thinking and writing that shows and develops your self-knowledge

Year 2008

About writing the final learning journal:
- The final learning journal is a separate journal entry that covers all the learning experiences during the course
- Use the same form of writing learning journals that you have found suitable for you in your earlier journal entries
- The length of the final learning journal is free, but it usually takes at least two to three pages to be genuinely able to elaborate learning during the course

Some guidelines:
- Read through all your earlier (weekly) learning journal entries and try to detect some coherent themes concerning what you have learned about ethics, yourself, learning, team work, etc. You can also look for evidence of change in your knowledge, thinking or behaviour (a change is a sign of learning!).
- Recognise and choose one to three different areas of learning.
- Consider and elaborate the significance and effect of this learning. Use the same form as in your earlier learning journal entries.
- Think back. What it was that made you learn these issues?
- End the learning journal by thinking about the future, i.e., how you could make use of your learning in the future?

Questions to be asked before writing the final learning journal:
- Have you questioned your previous assumptions during the course?
- Has this course challenged, or even changed, your values?
- Have you changed your previous beliefs during the course?
- What has been the most significant learning challenge during his course, i.e., what has been the most difficult or the most inconvenient thing for you?
- How do these challenges link with your assumptions about ethics, business life, responsibility and collaboration?

APPENDIX 6

STUDY II, SURVEY QUESTIONS

Questions in the pre-questionnaire (translated from Finnish):

1. In the courses, there are usually no situations that can be regarded as reflecting working life.
2. The lectures and exercises very often make me evaluate my own strengths and weaknesses as a future (forest sector) professional.
3. In many courses, theory is used to solve practical problems.
4. I believe that I will have to solve similar type of problems in the working life as I solve during the lectures, workshops and/or group work situations.
5. I think that because of my university education, I am more prepared to encounter unforeseen events in working life.
6. During my university education, I have often been able to become familiar with the working life practices in my own field.

Questions in the feedback questionnaire (translated from Finnish):
1. I did not regard the group work situations as reflecting working life.
2. The course made me evaluate my own strengths and weaknesses as a future (forest sector) professional.
3. In the course exercises, I used theory to solve practical problems.
4. I believe that I will have to solve similar types of problems in my working life as I solved during the course in the group work situations.
5. I think that I am now more prepared to encounter unforeseen events in working life than I was before the course.
6. During the course, I became familiar with the working life practices in my own field.