

**21st century skills and their development – university
teachers' perspective**

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ABSTRACT

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The discussion on the need for developing 21st century skills in higher education is a new phenomenon that demands research in the field. The aim of this study is to examine higher education teachers’ and managers’ as developers of 21st century skills. More specifically, the study focuses on the following two viewpoints. First, on the ways to support its development from the managers’ perspective. Second, the study aims to deepen understanding how their development contributes to university teachers’ identities and agency.

This a qualitative study which utilised two models of semi-structured interviews in order to be able to answer the established research questions. The phenomenon was studied from the point of view of the selected managers (or HR figures) (n=2) and the university teachers (n=6) from two different university departments in Spain and in Finland. The data was examined through the thematic analysis. A total of four themes that contained the totality of the obtained data were identified.

The main results point out how, overall, the selected departments are aware of the changes that the 21st century have set and therefore, work towards the development of them in order to improve their quality as providers of higher education. According to the findings regarding university teachers, some 21st century skills present a stronger need to develop, for instance, time management skills. Time management skills have also proven to be in relationship with other 21st century skills, such as creativity skills. Thus, the development of the first ones would potentially benefit the second ones.

The main conclusion of this research focuses on creating cultures and environments in where individuals are continuously learning, which are aligned with

promoting self-learning practices at the same time as setting a strong collaboration mindset.

Key words: 21st century skills, higher education, professional development, university departments

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1 INTRODUCTION

The 21st century society and its typical cultural characteristics are often referred to as Knowledge Era. The Knowledge Era is situated in the quantum paradigm which could be defined as complex, chaotic and uncertain (Risku, 2017). The increased complexities are an outcome of globalization and shift to a more competitive economy, affecting directly organizations.

Tynjälä (2013) states three major challenges in the present world. The first one concerns the physical world in which we are living in and environmental issues related to it, such as climate change and global warming. The second challenge relates to the society and how economy works nowadays. At present, there is more emphasis in networking than earlier. The third challenge concerns people as human beings, and how they can be prepared to face the previous challenges. Workplaces must pay attention to these challenges in order to adapt to the changed environment. Hence, in order to acknowledge and tackle the present challenges, employees and directors need to develop new kinds of work identities, new kinds of professional expertise, new ways of collaboration and, overall and ultimately, new ways of learning. Thus, there is a demand to engage learners in a transformative, innovative and networked environment rather than promoting individual learning (Tynjälä, 2013).

This thesis focuses on the professional development in higher education; therefore, it is particularly centered on how the institution with its employees and its students face to those challenges as well. In order to adapt to the demanded changes, human resource departments of organizations generally examine the skills available in the institutions to determine whether those are the ones demanded by the organizations' current needs. If that is not the case, it becomes essential to work on the expertise of the employees. For achieving higher level of expertise, the directors and the Human Resource department need a plan to work on the desired skills (Bogardus, 2005).

In sum, the societal changes demand adults 21st century skills, which university personnel did not necessarily gain during their education. Despite that higher education professionals are not necessarily the group that would be most in demand or would demand most training programmes to tackle the abovementioned challenges, they also have to face the demands for developing and updating professional identity, expertise and agency. They could also benefit from having 21st century skills to meet the societal needs (Tynjälä, 2013; Jääskelä, Nykänen & Tynjälä, 2016).

All teachers, as adult learners, should not be only aware of the knowledge, skills and attitudes that students need to catch, but also understand them, develop them constantly and become critical to see what those really imply. The critical question and overall starting point for this study is therefore, how do university teachers acquire and develop 21st century skills if they were not taught when they studied, perhaps even decades ago and they are not familiar with what is considered 21st century knowledge, skills and attitudes. The overall aim of this thesis is to deepen understanding about ways for supporting university personnel's capacity to develop 21st century skills, both for themselves and for their students; to understand how management supports it and how its development affects the identity and agency of the teachers. This thesis aims to deepen into ways of developing them thanks to the support by the management and how its development affects to the identity and agency of the teachers.

2 SOCIETY AND CURRENT LEARNING ORGANIZATIONS

Chapter 2 studies the organizations of the present and the future under the lens of the CAS approach. Organizations understood under this approach require employees to be able to adopt a more dynamic and holistic role in the workforce. It is for this reason, that 21st century skills represent relevance in order to empower this role. This chapter, thus, deepens as well into the understanding of them and studies the selected ones also examines in the research.

2.1 Organizations of the present and future: Complex Adaptive Systems

The globalization of the society makes a complex world full of complex elements, where citizens should learn continuously while working with diversity locally and internationally (Fullan, 2007).

Organizations understood as Complex Adaptive Systems (CAS) are characterized by the inherent difficulty which makes explaining their macro-level behavior as an outcome of its parties complex. So, complex systems are commonly created from a large number of entities that interact with each other and also with its environment. The importance of networking and being able to network, thus, has gained relevance (Gupta, 2015).

Furthermore, Fullan (2007) claims that the theory of CAS is an attempt to reveal how learning, emergence, self-organization and co-evolution have become principle characteristics typical for complex adaptive systems.

In this thesis, it can be argued that the organizations which are conceived as CAS, learn to adapt to changes in their environment. Moreover, they also seek patterns which interact with their environment, learn from their experiences and react to changes (Gell-Mann, 1991). The systems represent an intricate web of interconnectivity among individuals who are able to plan and organize in response

to changes. Both the individual and the system level demand learning and adaptation. On the systemic level, however, directors can order and empower the groups of personnel to cope better with the changes. Up to this point, it makes sense to remark that the dynamics of a successful organization as CAS lies in finding a balance between stability and instability (Gupta, 2015).

Additionally, innovation has been seen as one new topic demanding attention from CAS (Jäppinen, 2013). Gupta (2015) has emphasized the importance of long-term planning and development for enabling innovation. According to him, new strategic directions may arise from “spontaneous, self-organizing processes”. Higher education institutions can be interpreted as CAS as they are complex systems that deal with offering education to a changing society, with many different individuals and traits. Higher education institutions are in need, thus, to innovate to meet societal needs and educate future qualified employees.

2.2 Generic and 21st century skills in organizations

The skills required for success at work have changed in a dramatic way in the past few years. Hence, employers seek for more adaptable, teachable and responsible employees to help meet the competitiveness of the global economy. In contrast, heads nowadays expect soft skills, such as, for example, teamwork and group development from their employees rather than specific degree knowledge (Pant & Baroudi, 2006).

Jääskelä et al. (2016) have discussed generic skills demanded at working life. The generic skills they refer to are competences that are demanded in the world of work regardless of the field of production in question, as they are conceived as universal. A generic skill is one which can be applied across different subjects' domains and require longer time to learn and adopt than the specific skills (those needed at the subject level (Singh, 2015)). Jääskelä et al. (2016) consider critical and scientific thinking skills, communication skills, problem-solving skills and project work skills as such transferable ones of relevance that should be developed through education.

Singh (2015, p. 824) claims that “generic skills enable individuals to generate new skills which help to succeed in constantly new situations, manage, and adapt to changes while flourishing in the face of adversity”. Once they have been acquired, they remain with the individual forever and help to succeed in studies, professional career and life.

On the side of the increased relevance of the soft skills nowadays, even the traditional skills have suffered a switch in the past few years. For instance, Schleicher (2016) talks about 21st century skills in an OECD report on 21st century learning (2016). According to Pešickab & Lalović (2017), 21st century competencies is a construct already academically explored in the previous century.

On one hand, concepts, such as: “transferable knowledge”, “key skills”, “core skills”, “soft skills”, “generic skills”, “deeper learning”, “college and career readiness”, “student-centered learning”, “next-generation learning”, “new basic skills”, “higher-order thinking” have been encountered in literature as 21st century skills (Pešickab & Lalović, 2017, p.5 ; in Barrie, 2006; Boud & Garrick, 1999). However, taking into account the changes we are living nowadays, it makes more sense academically to refer to them as 21st century skills. So, generic and 21st century skills can be understood as partly overlapping. Due to the changes and their effects on society, 21st century skills are chosen as the starting point for this study.

Schleicher (2016) refers to 21st century skills when highlighting that the learning processes are being affected due to the changing world. Thus, the learning nowadays happens to have an abstract nature, in contrast to more traditional approaches, which do not sufficiently meet the current societal needs. At present day, experts are not only expected to learn but also generate knowledge and apply it. Schleicher (2016) remarks the importance of problem-solving which is more important than the amount of individual knowledge. In fact, it is about what the individuals learn, the way they learn and its teaching or training approach. Those last three aspects are under an ongoing changing process nowadays. The new skill needs include furthermore decision-making, initiative and teamwork.

From a holistic perspective within the domain of adult education, Mezirow (1991) has addressed that knowledge is seen as a sign of democratization and the

development of creating free-thinking individuals, with their own understanding and conviction to make use of that knowledge.

Furthermore, education nowadays is about communicating properly. Hällgren & Maaninen-Olssen (2005) give importance to both formal and informal communication and interaction to solve deviations. Hence, communication is understood as integral to knowledge sharing. Moreover, collaboration has been considered as key skill for present day work life. When it comes to ICT skills, Schleicher (2016), states that learners should be aware of their benefits and should be able to exploit them as well as recognize their risks. Finally, Schleicher (2016) emphasizes the importance of having the capacity to live in a multi-faceted world as an engaged and active citizen.

In addition, the individuals should have strong identity to be able to deal with different cultures and diversity in the world, as well as understand oneself. Furthermore, cultural diversity and the skills demands it sets have been emphasized by Reilly (2004, p. 65-79). Reilly (2004) points out, in particular, five dimensions of knowledge, which are demanded from employees to deal with cultural diversity. Those are: knowledge of interpersonal capacity, such as acknowledge and tolerance for individual cultural differences as well as sensitivity and tact; knowledge of societal capacity: cultural diversity, cross-cultural awareness, foreign society, customs and culture; knowledge of one's own biases and issues, that could be by demonstrating flexibility while retaining the stability of one's identity; knowledge of one's own country's biases and issues; knowledge of the world's biases and issues: global perspective, for instance, understand the interconnections and implications between local and global issues; among others (Reilly, 2004).

All, in all, 21st century skills cover academic, work-related, social and personal competencies, cognitive and non-cognitive ones, such as critical thinking, problem-solving, cooperation, effective communication, motivation, persistence, learning to learn, IT literacy skills, social and emotional skills, and at times also creativity, innovation and ethics (Pešickab & Lalović, 2017).

On the other hand, National Research Council of the United States of America (2012), claim that skills such as critical thinking, problem solving, collaboration, effective communication, among others are under labels, which are typically used to include both cognitive and non-cognitive skills. These labels are “deeper learning”, “twenty first century skills”, “college and career readiness”, “student-centered learning”, “next-generation learning”, “new basic skills” and “higher-order skills”. However, the National Research Council of the United States of America (2012) views the different labels above-mentioned as important dimensions of human competence, which have been valuable for many centuries, rather than skills that have suddenly emerged and are unique nowadays.

This study remarks that the National Research Council of United States of America (2012) provides with a starting point by organizing the 21st century skills in three domains of competence: (1) cognitive, (2) intrapersonal and (3) interpersonal. The *cognitive* domain involves reasoning and memory, the *intrapersonal* domains involves the capacity to manage one’s behavior and emotions to achieve the set goals (also learning goals) and the *interpersonal* domain involves expressing ideas and interpreting and responding to messages from others. The *cognitive* domain includes three clusters of competencies: cognitive processes and strategies; knowledge; and creativity. The *intrapersonal* domain includes three clusters of competencies: intellectual openness; work ethic and conscientiousness; and positive core self-evaluation. The *interpersonal* domain includes two clusters of competencies: teamwork and collaboration; and leadership (National Research Council of the United States of America (2012).

In sum, this study classifies 21st century skills according to the National Research Council (2012) domains. The skills and their related domains are presented in a form of a Table (see Table 1).

Skill	Domain	Definition
Critical and scientific thinking	Cognitive	Critical thinking deals with purposeful thinking. It refers to carefully analyze the situation or issue to address while taking into account the proper point of view, concepts or ideas, be aware of the subjective assumptions the critical thinker is making and be detailed about the conclusions the thinker is coming to (Gambrill & Gibbs, 2009). When it comes to scientific thinking, literature suggests that the thinking should be obtained and developed by scientific knowledge and social knowledge through critical thinking. Both together affect decision-making (Bingle & Gaskell, 1994).
Creativity	Cognitive	Organizations that boost creativity “motivate individual employees to go beyond the call of duty, exerting energy and initiative to the best of their abilities and assume ownership of the value innovation processes in their organizations” (Kuada et al., 2010, p. 2).
Decision making	Cognitive	Decision making is a skill that comes after analyzing the “wants”, abilities and goals. Evaluative thinking is within decision making, as it involves comparing different available alternatives and choose the right one by analyzing the real needs and the values of the individual (Simon, 2000).
Information and Communication Technology (ICT)	Cognitive	The proper use of ICT becomes essential in higher education because of the change of paradigm the society is facing. The current needs in education require access to a variety of information sources, student-centered learning settings based on infor-

		mation inquiry, and learning environments centered in problem solving, among others. ICT have the potential to meet the requirements of the 21st century (Oliver, 2002).
Stress management	Intrapersonal	It “encompasses techniques intended to equip a person with effective coping mechanisms for dealing with psychological stress” (Parker, 2007, p. 8).
Flexibility	Intrapersonal	Literature emphasizes the meaning of internal flexibility. According to Erlinghagen (2004a), it deals with increasing the functional flexibility of staff in the context of introducing more flexible work organization that incorporate both flat hierarchies and team working. Flexibility from the learner point of view translates into the individuals who are adaptable - adjustment and performing, willing to change, lifelong learners, teachable and accepts new perspectives (Robles, 2012).
Time management	Intrapersonal	Time management, from the business management point of view, sets a tremendous effect in human beings’ life as literature suggests that it is strongly related to the status of self-esteem. Therefore, it is essential to have a good self-esteem in order to be able to manage time by critical thinking, prioritizing and setting specific goals (Tracy, 2014).
Initiative	Intrapersonal	Frese & Fay (2001) define personal initiative as “work behavior characterized by its self-starting nature, its proactive approach and by being persistent in overcoming difficulties that arise in the pursuit of a goal” (p. 134). According to den Hartog & Belschak, 2007), individuals are more willing to take initiative when they care, identify and feel involved

		in their work environment, that is, when they feel committed to the workplace targets.
Collaboration	Interpersonal	Collaboration is approached from multiple perspectives in literature. According to Bell (2010), collaboration processes are enhanced by making use of communication skills in order to solve a situation. So, Straus (2002) defines collaborative problem solving as “the process people employ when working together in a group, organization, or community plans, create, solve problems, and make decisions” (p. 18). It assumes the dignity and value of every human being.
Problem solving	Interpersonal	According to Fensel (2000), problem solving methods are commonly used to describe the logical steps and types of knowledge needed to carry out a task. It involves both realization and functionality. It can be related to efficiency.
Teamwork	Interpersonal	Team working, according to Blinkey et al. (2012), involves multiple aspects of a human being. “Know and reorganize the individual roles of a successful team and know own strengths and weaknesses and recognizing and accepting them in others; think and respond open-mindedly to different ideas and values” (p. 47).
Effective communication	Interpersonal	It involves active empathizing with the individuals to communicate with, listening techniques, use of non-verbal communication, assertiveness – balance the conversation, so the opinions are equally respected, negotiation, presentation skills, among others (Ellis, 2009).

Project work	Cognitive and interpersonal	Project work skills are essential to deal with the complexity of different situations. It allows to focus on specific projects in order to familiarize and work through the knowledge, skills and attitudes which that specific project challenges with. It is key to foster reflecting on complexities rather than merely focusing on training in some generic tool (Ramazani & Jergeas, 2014; Pant & Baroudi, 2007).
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Table 1: The 21st century skills examined in this study

3 LEARNING AND DEVELOPMENT IN HIGHER EDUCATION

Chapter 3 deepens the perspective into higher education and its learning processes. It examines life-long learning and its importance in professional development as well as the potentialities life-long learning owns to transforming and widening understanding. It goes through four different models on how the generic skills are developed and updated in universities. From this viewpoint, it deepens into the role of and agency and identity in developing skills in organizations.

3.1 Lifelong learning

While in the previous sections the skills' demands of present society and how organizations have been understood as CAS were explored, in this section the focus is on higher education institutions' developmental work and how they have tried to meet the challenges described above.

Scales (2011) studies the relevance of learning in organizations. He claims that if learning is seen as the core activity of the organization – that means for both the employer and employees - then it is more likely that the system succeeds; not only from the point of view of the learners, but also strategically talking when it comes to adapting and surviving to difficult circumstances when the feel of “needing learning” is notorious. However, learning phenomena has also changed in the organizations at the same time as the society is being changing. Therefore, learning has acquired a strategic significance to organizations. Learning is essential strategically wise while it presents challenges when it comes to developing proper learning within organizations nowadays. The author suggests that what is required in our era, in order to achieve significant learning, is focusing on creating cultures and environments in which individuals learn continuously and are able to adapt to change. Hence, it comes down to a mindset more than anything else. The author highlights the importance of government strategies to promote attitudes and resources towards learning to face to change.

Pant & Baroudi (2006) highlight the relevance of lifelong learning, as it seems to be the key of keeping the individuals updated not only when it comes to satisfying specific working needs, but also to be synchronized with the continuous societal changes. Hansen (2004) claims that organizations that want to improve the staff's competences should be transformed into inspirational environments that are conducive to an individuals' development apart from their working life. In sum, it can be stated that more than betting in competences that will be needed in the near future, attention should be paid to creating favorable conditions and spaces for lifelong learning putting emphasis in caring, persistent, critical and ethical human character as well as appropriate learning environments for collaborative innovation (Jääskelä, et al. 2016).

However, Field & Leicester (2000), suggest that lifelong learning has been framed in vocational education, when it is especially required in the workplace as well. Indeed, lifelong learning should be aligned with changes in the economy and workplace. Therefore, the author suggests that it is crucial to invest in human capital able to perform in the increasing globalized capitalism, where workplaces, especially in developed countries, are changing to involve team-based practices where a wider range of skills are taken into account, such as self-management and international skills.

Kaya (2014, p. 1185) notes:

Lifelong learning is defined as all learning activities undertaken throughout life, with the aim of improving knowledge, skills and competence within a personal, civic, social and/or employment-related perspective" in order to promote an entrepreneurial behavior required in the 21st century.

Thus, lifelong learning is about updating knowledge and especially abilities for the current era. Up to this point, it will promote its development, which makes it easier for the individuals to adapt themselves to the knowledge-based society. In this line, individuals are increasingly expected to adopt an "entrepreneurial" work attitude based on flexibility, multi-skilling and willingness to be open to continuous changes (Tynjälä, 2013).

Life-long learning has been for decades the approach, which has been seen to promise adaptability to the demands that CAS are phasing and presenting to

their personnel. Therefore, skills do not depend on any single method of teaching, but rather on the combination of those and the usage of diverse pedagogical practices. Those pedagogical practices involve teaching while enhancing collaboration and interaction. Skills as decision-making and problem-solving get especially benefited from this. Furthermore, it is important to use versatile forms of assessment, such as self-assessment, peer-assessment and the fact of receiving and giving back feedback in the university level. On the other hand, practices as reading, lecturing and working alone would affect negatively towards the generic skills (see e.g. Sadler & Good, 2006; Virtanen & Tynjälä, 2018). Up to this point, the more traditional the teaching practices are, the less acquisition of generic skills – especially with problem-solving skills and occupational problems (Jääskelä, et al., 2016).

Kalamas & Kalamas (2004) remark the importance on developing employee capital by lifelong learning as: employees who have the tools to go through self-development processes can thus offer more flexibility to respond to changing market conditions; independent learners and thinkers are able to adapt to new situations and challenges through refocusing their thinking and direction; the more skilled and knowledgeable the employees are, the more likely is that they are able to assess their performance and proceed to mid-stream course corrections if needed; employees who feel that their organization cares about their development are less likely to abandon their workplace and; better training for employees endures the organization's mission and strategy.

Keep et al. (2002) establish six challenges for the future when it comes to transforming learning in the workplace. In this master thesis I am going to highlight 4 of them: (1) HR managers should make a realistic assessment of the progress made in relation to achieving a learning organization, which means an organization which deals and manages knowledge and therefore framed in the knowledge-based economy, (2) examine deeply and critically the implications of nature of work modernization and its impact on employers' demand for skills and different community management, (3) acknowledge the differences between

employers and employees on training and development interests while both contribute to economic success, the current needs of employment and eventually to an inclusive society and (4) recognize the multiple different forms of workplace learning. An example would be how a novel and young worker helps an older worker to deal with ICT, while this could be controversial as, as a novel, he/she should be the one receiving training.

Rossnagel (2010) examines lifelong learning from the perspective of older workers. He claims that there are widespread stereotypes about older workers, such as the lack of their readiness to adjust to changing situations, flexibility and technological competences, that means that they lack the entrepreneurial mindset. Furthermore, when it comes to training, older workers are conceived as slowly learners, have insufficient ICT skills and demonstrate poor training performance (Simon, 1996). However, the author after analyzing different psychology studies claims that cognitive ageing does not interfere learning ability but motivational learning readiness.

3.2 Development of generic skills - models of institutions

Development of generic skills is a big component in lifelong learning. They can also be understood as 21st century skills as suggested previously in this paper.

Jääskelä et al. (2016) have pictured, based on their empiric study, four models on how higher education institutes deal with the development of generic skills. Development of generic skills demands paying attention to learning environments. It is a matter of activating an interactive teaching that puts effort in understanding the main concepts, collaborative learning, feedback and support, and versatile evaluation methods. The study of Jääskelä et al. (2016) contributes with four models that try to explain different methods of teaching and learning generic skills. These models, additionally, are developed in order to study the problematic issue of generic skills in higher education organizations and to outline different models by which higher education organizations are facing to the challenge belonging to the development of generic skills at the workforce.

The models are: (1) Specialist Model, (2) Science-based Renewal Model, (3) Project-based Integrative Model and (4) Model of Networked Culture.

The mentioned models suggest keeping clear the difference between how individuals develop and how higher education institutes organize structures. Jääskelä, Nykänen & Tynjälä (2018), discuss them through (1) structural factors – which includes “the task of higher education in relation to the world of work, responsibilities for the workplace relations in education, and aspects of management and networking” (p. 7) , (2) pedagogical factors – which involves “the position of generic skills in the curriculum, pedagogical collaboration in the teaching of generic skills, elements of expertise in learning and teaching and emphasis on learning skills” (p. 9), and (3) guidance practices.

With regards to structural factors (1), Specialist Model (Jääskelä, Nykänen & Tynjälä, 2018). emphasize the universities research’ task. The responsibilities in workplace relations are designated to specific personnel. Thus, designated teaching staff cooperates with the workplace representatives, so networking toward the workplace is connected to relations and duties and is built through representative agency. Training for the development of generic skills is added to study programmes in a way that workplace representatives visit students and vice versa. Management is decentralized and based on the division of tasks. Curricula development and work practices take place in broad-based working groups in departments.

The Science-Based Renewal Model (Jääskelä, Nykänen & Tynjälä, 2018) focuses on producing research-based knowledge, so, higher education is conceived as having an active role in creating new ways of thinking and preparing students as change agents in the world of work. The workplace relations in this model are built both individually and collectively with the support of academic networks among people in the same discipline.

In contrast, Project-Based Integrative Model (Jääskelä, Nykänen & Tynjälä, 2018) focuses on systems that provide learners to participate and learn in real learning environments while integrating theory and practice. Hence, generic

skills are usually developed in work-oriented courses. The individuals are engaged in networking with the workplace. The management supports innovative, work-oriented teaching and allocates resources for teaching.

In the Model of Networked Culture (Jääskelä, Nykänen & Tynjälä, 2018), generic skills are embedded in all activities. The main purpose is to integrate the principal functions of the university – research, teaching and societal and regional development. So, teaching happens hand to hand with broad-based projects in the world of work. Collaboration is a strong skill to develop.

In terms of pedagogical factors (2), in the Specialist Model (Jääskelä, Nykänen & Tynjälä, 2018) the work-related matters are separated into courses. While curricular planning is collective, teaching happens under a division of labor. Hence, theoretical and self-regulative knowledge are worked separately, and the development of generic skills is a task of specialists.

In the Science-Based Renewal Model (Jääskelä, Nykänen & Tynjälä, 2018), the main pedagogical idea is that education must offer learners challenges from which they can learn and solve complex problems. Thus, theories related to discipline, mastery of new knowledge production and collaborative learning play a strong role in the curriculum. So, generic skills are expected to happen as a side effect of forms of learning activities.

Generic skills in the Project-Based Integrative Model (Jääskelä, Nykänen & Tynjälä, 2018), are conceived to be best learnt in real-life projects; so, theory and practice can be well integrated. For instance, courses in communication skills can be integrated with a project course in computer science. The model is based on interaction and reflection on what has been learnt. So, collaboration, self-regulative skills and reflection are key. Both teachers and workplace representatives are conceived to provide content as well as act as methodological supervisors.

Lastly, in the Model of Networked Culture (Jääskelä, Nykänen & Tynjälä, 2018), the curriculum focuses on knowledge production in diverse fields in higher education and its practical application. The development of learners' competencies and work orientation are relevant in teaching. Moreover, guidance, assessment and reflection are included.

In terms of guidance practices (3), in the Specialist Model (Jääskelä, Nykänen & Tynjälä, 2018), teaching and guidance are clearly separated actions implemented by different members of the staff. So, generic skills are strongly seen as a part of career guidance and its guidance is carried out by staff responsible for recruitment services and career counseling. It does not belong to teachers' tasks. Guidance is conceived as a responsibility to seek for by the learners.

In the Science-Based Renewal Model (Jääskelä, Nykänen & Tynjälä, 2018), guidance appears to be not the strong point of the model, being teaching and learning the foci of education. So, involving in students' career building with guidance during the education is conceived as unnecessary and even opposite to the objectives of higher education. Still, specialized guidance services are available at the university level.

In Project-Based Integrative Model (Jääskelä, Nykänen & Tynjälä, 2018), guidance happens due to the existing collaboration between teachers and learners. It is seen as a natural process while combining theoretical, practical and self-regulative knowledge. Hence, innovative and collaborative pedagogical solutions are conceived as elements to foster the development of students' thinking as well.

Lastly, in the Model of Networked Culture (Jääskelä, Nykänen & Tynjälä, 2018), teaching, guidance and learning are merged into one, as the model is strongly centered on the learner. Every agent is seen as helpful in the process of guidance. That is, all staff members are committed to guiding learners as well as senior learners serve as mentors to junior learners. The concept of well-being is a goal of the model, so guidance plays a natural role. Learning by everyone is the philosophy.

3.3 Agency as a concept in education

The way higher education teachers and managers develop teaching and learning is dependent on their overall agency and learning as professionals. Therefore, the viewpoint of agency is explored in this section. Agency processes explain how the actual work is carried out and therefore it helps to understand a model an organization might match with.

Biesta, Priestley & Robinson (2015) have studied how agency is not what individuals can own, nor a competence or capacity either, but rather something that individuals do. Agency implies a quality of the engagement of the individuals.

There are several approaches that try to explain agency; however, this thesis focuses on how agency is achieved in concrete situations, more specifically in relation to 21st century skills. The ecological agency approach sees individuals as actors who “critically shape their responses to problematic situations” (Biesta & Tedder, 2006, p. 11). Hence, agency remarks that actors act by means of their environment instead of in their environment. Therefore, the achievement of agency results from the interplay of individual attempts, available resources and relevant contextual and structural factors which come in unique situations (Biesta & Tedder, 2007).

Agency understood under these terms suggests understanding human beings as creative and reflexive while acting towards overcoming societal constraints at the same time as being constrained by their material and social environments (Priestley & Biesta, 2013). In this line, Leibowitz, et al. (2011), comments that teachers should be good learners and able to learn from their own practice through reflection.

3.3.1 Professional development from identity and agency point of view

Vähäsantanen (2013) emphasizes how professional agency is a socially resourced individual phenomenon, which is represented and updated through the individual's mental and practical activity, instead of via collective efforts and activities.

However, this does not imply that the collaborative processes for agency would be denied. Professional agency can be seen as emerged and played in the context of changing work practices (Vähäsantanen, 2013).

Change is associated with how individuals manage their intentions and agency when engaging with the situations that are somehow challenging or simply different. Thus, individuals' subjectivity is itself shaped by events, especially dramatic events. The continuous reshaping of practices reflects the ongoing negotiation between personal and social factors. Eventually, transformations in both individual and work practices will happen through these negotiations. In sum, according to Biesta, Priestley & Robinson (2015), there are three major dimensions in agency, which should be taken into account. These are: a set of influences from the past (iterational dimension), orientations towards the future (projective dimension) and; the active engagement with the present (practical dimension). Thus, individuals are not entirely subject to change; instead, they tend to be actively engaged in their learning and the reshaping of cultural practices, such as those required for work practices (Billet, 2006).

Biesta, Priestley & Robinson (2015) have developed a model in accordance with the ecological approach of agency. This model highlights that the past experiences shape the achievement of agency, including both professional and personal biographies. Thus, agency is also orientated towards the future and that is put into practice in the present. This enactment is highly influenced by structural, material and cultural resources. Biesta, Priestley & Robinson (2015) present this theorization as a three part model where the iterational dimension, including life and professional stories; the practical-evaluative dimension, with cultural, structural and material subdimensions, such as values, relationships and physical environments; and the projective dimension, including short- and long-term goals are all interacting with each other.

When it comes to identity in previous studies, Little & Bartlett (2002) suggest that the essential issues of teacher identity include how they think of themselves as teachers, for instance, what matters to them, their beliefs about schools, teaching and students and how they define their moral and intellectual obligations. In the same line, van Veen & Slegers (2009), suggest that different elements of the professional identity of teachers might include their perceptions of their self-image, core responsibilities, self-esteem, beliefs about teaching, subject and subject pedagogy, teaching as work and job motivation. Hence, professional identity includes their personal stories. Moreover, Leibowitz, et al. (2011), state that the identity emerges from the interactions with the world. Therefore, it is a matter of “what individuals care about”. Emotions play an important role to adapt identity as they have the “power to modify the cognitive goal” and ultimately in defining one’s self-worth, strongly intertwined with self-esteem and self-image. Archer (2000) suggests that reflexivity enhances personal identity, which individuals acquire at maturity and thus, is the outcome of a continuous sense of self.

Identity and agency are intertwined because, on one hand, as some authors suggest (Watson, 2006; Beijaard, et al., 2004) it is often believed that teacher identities tend to be dynamic and changeable at the current changing world. It is then, when negotiations happen. However, like Vähäsantanen & Eteläpelto (2011) state, professional identity negotiations become more challenging when the already existing identity clashes with the expected identity. Therefore, the gap between the desirable and the present state of teacher identity is at the heart of the professional identity negotiations. At any case, the process of changing identities can be challenging and a long-term process (Vähäsantanen & Eteläpelto, 2011). All in all, the negotiation process cannot be conceptualized without taking into consideration perspectives joining both social and personal, that is, because professional identity negotiations are conceived and studied as processes in which teachers have an active role in relation to social suggestions that emerge from the ongoing changing context (Eteläpelto & Vähäsantanen, 2006). On the other hand,

Biesta, Prestley & Robinson (2015) state that there is a high dependence on personal qualities that teachers bring into their daily work in teacher agency.

Considering how these identity negotiation processes can be reinforced, Hänninen & Eteläpelto (2008) have studied how personal agency can be strengthened. They suggest that it can be done by organizing special empowerment programmes. Such empowerment programmes could be translated into opportunities to analyze their own competencies, their work philosophy and the culture of their work organization by using creative methods such as psychodrama, sociodrama, visual arts and narrations.

Billett (2001, 2002) has pointed out that it is essential to understand and contemplate the workplace learning idea of dual participation, which means the way in which workplaces afford opportunities for learning and how individuals decide to engage in activities with the support and guidance provided by the workplace.

All in all, the approach of agency emphasizes the need to keep developing in order to become better professionals by deliberate attempts to bring in some development, change or innovation. In accordance, Fullan (1993) claims that moral purpose and changes in agency are embedded in what good teaching and effective change are about. The relevance of deliberate individual conceptions in a team enhances development and new conceptions. The conceptions once are understood and brought into practice are then conceived as new paradigms to work in an organization.

3.3.2 Learning and development from expertise point of view

Within the framework of expertise preceding the studies on agency, researchers such as Dreyfus & Dreyfus (1986) have claimed that the development of expertise goes through the following phases: (1) novice, (2) advanced beginner, (3) competent, (4) proficient and; (5) expert. However, their model lacked a clear explanation about the processes through which individuals advance from one phase to the next. Concepts such as deliberate practice (Ericsson, 2006) and progressive problem solving (Bereiter & Scardamalia, 1993) have been created to address the

perspective of advancement and they are conceived nowadays as concepts completing the picture of individual learning processes. According to Tynjälä (2013), expertise involves working maximally, at the edge of one's competence with even surpassing oneself. In this way, individuals are learning constantly new things and develop their expertise significantly.

In sum, the theoretical starting points which have been presented above for this study, particularly the perspectives of agency and expertise, underline that it is important to pay attention the following factors, while studying university personnel as advancers of 21st century skills. Firstly, a holistic approach is required to understand the phenomenon as well as taking the physical content into consideration while studying the development of agency and expertise. Both expertise and agency keep advancing throughout the professional career, thus, future projection is relevant to keep accomplishing either short- or long-term goals in order to grow both personally and professionally. In the meanwhile, the adjustment of values and beliefs occurs, as well as the establishment and change of roles which brings in trust and structures power relations.

4 RESEARCH DESIGN

This chapter presents the aim and the research questions of the study, the context of data collection and research participants, the research method and analysis and quality and; ethical considerations.

4.1 Aim and research questions

The overall aim of this research is to examine higher education teachers' and managers' as developers of 21st century skills. The three research questions studied are:

- ✓ RQ1. How do the departments support higher education teachers' development of 21st century skills both for themselves and for their students?
- ✓ RQ2. How does professional development affect teachers' perceptions of their identity and agency?
- ✓ RQ3. What kind of differences are in terms of professional development of 21st century skills in the selected university departments in Finland and Spain?

In order to get a broader and more relevant view of the studied subjects in an international context, in particular, for higher education, the research focuses on the perspective of two selected higher education departments. The departments are part of universities which are situated in Finland and in Spain. Data collection addressed two different personnel groups: interviews were conducted to three teachers and the vice-president in the department in Finland and three teachers and the director of a department in Spain. The context of data collection is described in detail in the next section.

4.2 The context of data collection and the research participants

This study focuses on two different contexts with some similar and different points. The data was collected in Finland and in Spain in the context of higher education, more specifically in university level.

The departments are different on purpose. In order to broaden the perspective, the studied university departments are in different subjects, however, both have a strong core themselves in pedagogy and dealing with diversity and societal issues. The argumentation for the choice of the departments is because there is an interest from the researcher in the selected areas. Additionally, the reason that the researcher had a few contacts in the departments made them even more accessible. That is in line with Bryman & Bell (2011) as the choice of an organization should consider practical issues as well.

As in for research participants, a total of eight interviewees were chosen. Four of them were Finns from the university department in Finland and the other four from the university department in Spain. In the findings, data pertaining to each interviewee group is referred to under pseudonyms (as for Finns: F1, F2, F3, and for Spanish interviewees: S1, S2, S3). Three of them in each department are working as university teachers, and therefore, the data obtained was related to their role and experiences as university teachers. The fourth interviewee of each department is the vice-president of the department in case of Finland (under the pseudonymization FH), and the director of the department as for Spain (under the pseudonymization SH). Same as with the teachers, the obtained answers are referred as in for their role and experience as vice-president and director in the departments. Although they are not in the same work position, their jobs are similar, as they both care for professional development issues in the departments actively and are hence main responsible actors. In this research, they are contemplated as figures who have an important role in deciding on Human Resource issues in their departments.

The research participants were chosen carefully, being the teachers employees with age differences and experience and therefore, in different professional stages. The intention behind it was to get a broad perspective of the topic, so the

results would be more generalizable, at least when it comes to age and professional expertise. Moreover, there are as well full-time and part-time teachers, so the contract code can be discussed from this point of view as well. The HR figures were as well chosen on purpose to meet the demands of the study. The responsible persons in both departments that deal more directly with professional development issues, especially related to skills and competences demanded nowadays at work were selected. They do not only own managerial positions within the department, but also both are still nowadays teachers in the departments themselves. The figures of vice-president and director, in this case, are very close to the teachers' needs and every day working life. They see and work hand to hand with the teachers every day. The ratio male-female of the participants was taken into account as well. Unfortunately, in both departments, teachers are mostly women, leaving little margin to men. Nevertheless, two men were selected to interview. One is a teacher from the Finnish department (F1) and the other is the vice-president of the department in Finland (FH).

The sample method used in this study is purposive sampling (also called purposive or judgment sampling). According to Bryman (2007), it is a widely used approach in qualitative research, as the sample group is chosen in a strategic way more than in a random basis. Patton (1990) states that, moreover, it provides the identification of information-rich cases related to the phenomenon to examine. Information-rich cases are those from which the researcher can learn about the context of the study that matter to the purpose of the inquiry. Studying information-rich cases provides in-depth understanding which will bring to useful insights, rather than empirical generalizations.

Purposive sampling is coherent with the present thesis, which aims to deepen understanding of the phenomenon: how university departments support higher education teachers' development of 21st century skills both for themselves and for their students.

4.3 Research method and analysis

The selected approach to conduct this master thesis is qualitative. Argumentations on this decision can be found right below:

According to Hoy (2010, p. 2):

Qualitative research focuses on in-depth understanding of social and human behavior and the reasons behind such behavior.

Furthermore, Tracy (2012) claims that it is about immersing oneself in an environment with the main purpose of trying to make sense of it whether at a company meeting, during an interview, community event, etc. Qualitative researchers make accurate notes about they see and perceive in order to make sense of the context and build further knowledge from this point. Saunders, et al., (2007) state that qualitative research is described as “non-numerical data” and non-standardized.

The present thesis aims to deepen understanding into the phenomenon of professional development, more specifically when it comes to the acquisition and development of 21st century skills, therefore, it makes sense to study this topic from a qualitative approach. Furthermore, qualitative research matches with semi-structured interviews used to collect the data. The data obtained from such interviews is based on experiences, opinions and thoughts about the topic and by no means gets quantified.

In order to obtain, treat and analyze the qualitative data it is precise to select an analysis method to do so. This study has been conducted under the thematic analysis, which is a method for “identifying, analyzing and reporting patterns, also known as themes within data” (Braun & Clarke, 2006, p. 79). After collecting a great deal of data, this method allows to organize and describe the data set in rich detail. It is a method widely used in qualitative research as it provides flexibility in its systematic functioning, especially by defining the themes to work upon. Thematic analysis belongs to methods which can be applied with a range of different theoretical and epistemological approaches. The method is not bound

to any other theoretical framework and so it can be used in diverse theoretical frameworks.

According to Braun & Clarke (2006), thematic analysis can be conceived as an essentialist or a constructionist method. However, the nature of this study requires it to be a contextualist method, sitting between essentialism and constructivism, as it acknowledges the ways the participants make meaning of their experiences and in the ways the society affects those meanings. In this way, thematic analysis works as a method that reflects on reality and unravel the surface of this reality.

In reference to the data set, the data can be provided as a rich description or as a detailed account of a particular point. In this research, the data is treated in a detailed way, as the main focus of the thesis is understanding the development of 21st century skills by higher education personnel. So, the data analysis focuses on a specific area of interest within the obtained data.

Regarding the identification of the relevant data extracts and themes within the data set, there are two primary ways in thematic analysis: inductive or deductive. This research follows an inductive approach as the identified themes are strongly linked to the data (Patton, 1990). Additionally, some of the identified themes are not so much in relation with the questions asked in the interviews. So, the process of coding went through without trying to fit the data into preexisting themes.

In regards of the epistemology, this study finds itself under a constructionist perspective. The constructionist framework does not focus on individual psychologies, "but rather theorize the sociocultural contexts and structural conditions that enable the individual accounts that are provided" (Braun & Clarke, 2006, p. 85). For instance, the present research attempts to see and examine the differences between the Finnish and Spanish department and see from where these differences might come from.

In this thesis, data analysis was conducted following thematic analysis. Following the introduction to thematic analysis, Braun & Clarke (2006) claim that the data analysis is described as an iterative process that includes reading

through the data several times as well as analysis and repeated verifications of interpretation by comparing them to the original transcriptions. In this present thesis, the data was transcribed and read thoroughly two times. The total transcription of the data in pages were close to 120 pages, so the “raw” data got summed up into 33 pages, taking the main points and excluding repetitive statements and irrelevant data that would not bring anything to the purpose of the study and its research questions. The summary was key to determine the data relevant for this study. It was then when the data analysis started by relating the data to the research questions of the study.

The summary was read and analyzed thoroughly by marking the relevant extracts. The relevant extracts were read and gathered up in topics. The data then was initially coded. At this point, it was when codes as specific 21st century skills, for instance, were recognized. The data was entirely coded and finally categorized into four themes which have to do with the development of 21st century skills. Additionally, subthemes were created in order to organize the data within a theme in a more logical and structured way. The details of the themes and subthemes are presented in Table 2.

THEME	SUBTHEMES
Theme 1: Current society	-
Theme 2: Professional development in the institutions	Subtheme 1: Institutions as departments Subtheme 2: Departments towards teachers
Theme 3: Professional development – teachers’ reflections on the development of their own 21 st century skills learning	Subtheme 1: 21 st century skills Subtheme 2: Learning enhancers
Theme 4: Teachers’ identity and agency	-

Table 2: Themes and subthemes of the study

The coherence of the codes was once again revised after every code was put into a theme and a subtheme. The useful data was then put in form of an explanatory table with the themes, subthemes, the codes, the related codes to existing codes and other relevant specific points. Afterwards, the connection between codes was made and was taken into account while conducting the data analysis. The relationships between codes in current society, professional development in the institutions and traits of teachers affecting identity and agency were established. The findings were tried to be understood equally from both HR figures and the teachers as well as taking into consideration their contexts in order to have a global and rich vision of the data.

In the final analysis stage, especially referring to R3 (which compares Finland and Spanish professional development), the views were compared in regards of the department support towards the development of 21st century skills and its development and how it affects into their identity and agency. A final mind map was made in order to specify the main findings and its connections.

4.3.1 Research instruments and process

In order to answer the formulated research questions, two instruments to collect the relevant data have been utilized: two different models of semi-structured interviews. One of them was conducted to the vice-president and the director of the departments and the other one to the selected teachers. The interviews were conducted after an extensive literature review and after having set the research questions. The language used in the interviews was English with the Finnish participants and Catalan with the Spanish participants. The questions in the interviews were formulated by the researcher while analyzing and reflecting on the examined literature and seeing and relating how it could serve to investigate in this present research. The questions are purposeful to answer the research questions. The answers were recorded with a mobile phone and transcribed in Word documents.

The details about the interviews' time, location and transcription extension are presented in Table 3:

Interviewee	Interview extension in time	Interview extension in transcription pages (Font: Book Antiqua, Font size: 12, Line spacing: 1,5)	Interview location
F1	01:18:00	17 pages	Face to face, JYU campus
F2	00:32:55	12 pages	Face to face, JYU campus
F3	00:50:10	15 pages	Face to face, JYU campus
S1	00:50:17	19 pages	Skype interview
S2	00:40:16	14 pages	Skype interview

S3	00:39:48	13 pages	Google Hangouts interview
FH	00:49:33	13 pages	Face to face, JYU campus
SH	00:52:56	15 pages	Skype interview

Table 3: Anonymization of the selected participants and interview details

The Skype and Google Hangouts interviews were unfortunately not possible to be conducted face to face instead as the researcher was living in Jyväskylä (Finland) when it was time to collect the data. However, the fact that the interviews were online did not affect significantly the answers of the participants. The Spanish interviewees showed themselves natural and seemed to open up sufficiently, so no concerns of biased information were raised in this matter. The researcher suggested Skype while setting a time and a place to conduct the interviews. All interviewees agreed on this software except for S3 who preferred to do it over Google Hangouts.

At both cases, special attention to non-verbal communication and interviewees' tone was paid in order to interpret their statements appropriately and according to the research purpose.

Transcriptions were made in English for Finnish interviewees and in Catalan (mother tongue and used language) for Spanish interviewees. The direct quotations of the Catalan interviewees while reporting them is translated into English, for convenience matters. Translations were carefully made by the researcher.

The decision to make semi-structured interviews is in accordance with the nature of answers desired to get. This type of interview is non-standardized and allows the interviewer to ask spontaneous follow-up questions that clarify given answers or statements from the interviewees. Hence, it allows to remark and ensure opinions that evolve during the interview (Saunders, et al., 2012). Me, as a researcher, kept a good balance while conducting the interview, in a way that

there were the sufficient follow-up questions to clarify the meaning of their answers if needed. Hence, leading questions were avoided (Bryman & Bell, 2011).

The interview guide was sent to the participants in advance, so they had the chance, if wanted, to have an idea and read the questions they were about to be asked about. The researcher stated clearly it was not necessary for them to go through them, as the main point was not to get studied and formal answers, but rather collect their experiences in forms of actual practices and thoughts. The questions were sent in English to the Finnish participants and in Catalan to the Spanish ones.

There were four models of interviews in total (see Appendix 1): interview for teachers in English, interview for teachers in Catalan, interview for the vice-president of the department in English and interview for the director of the department in Catalan.

Finally, before presenting the findings it is important to notice that, regarding the 21st century skills, the findings focus on nine of the sixteen of them which were presented in the beginning of this report based on the literature. The skills focused on include stress management, time management and flexibility belonging to intrapersonal skills; problem solving, teamworking and communication skills belonging to interpersonal skills and; critical thinking, ICT and creativity belonging to cognitive skills. The choice of the above-mentioned skills comes to wanting to study if there was a relevant difference in the acquisition and development of the 21st century skills depending on their domain. Therefore, three skills per each domain seemed fair to the researcher when it came to choose to skills to focus on. Nevertheless, investigating the other skills would have benefitted from a different data collection approach as well. Although the data analysis focuses mainly on the selected skills, it strives to see the connections to the other 21st century skills in this study in order to get a big and complete view.

4.4 Quality and ethical considerations

A qualitative research needs to follow some criteria in order to ensure quality. A way of adding and ensuring quality in a research is by making a research trustworthy. Lincoln & Guba (1985) state that in a qualitative research, researchers often use “reliability”, “credibility”, “transferability” and “confirmability” as the criteria of trustworthiness.

However, in quantitative research the term of dependability is crucial, and it is largely compared in terms of quality in both types of research. It is often claimed that qualitative studies cannot have so much reliability (claimed as dependability in quantitative studies), but on the other hand, one of the main strengths of the qualitative approach is describing the uniqueness of situations (Cohen, 2011). According to Shenton (2004, p. 71), “if the work were repeated, in the same context, with the same methods and with the same participants, similar results would be obtained”. So, the fact of transcribing the interviews and use the same thematic analysis helps to raise reliability (Cohen, et al., 2011).

In reference to credibility, it can be defined as the accuracy of research findings where researchers attempt to show that a true picture of the phenomenon under scrutiny is presented (Shenton, 2004, p. 63). Guba (1981) mentions several procedures that raise credibility, such as prolonged engagement at the site, persistent observation and triangulation. The present research takes into account triangulation as the vision of the studied phenomena is in two different areas departments and countries, as well as different interviewees, university teacher and managerial positions workers (treated as HR figures). Triangulation allows to broaden the vision of the topic by getting answers from diverse points of view.

Transferability is considered for evaluating the applicability of a research in another reality. Hence, a research with transferability “provides with sufficient detail of the context of the fieldwork for a reader to be able to decide whether the prevailing environment is similar to another situation with which he or she is familiar and whether the findings can justifiably be applied to the other setting” (Shenton, 2004, p. 63). This present study takes into consideration transferability

of the findings, aims to it, and it can be presumed that similar themes and topics would be brought up, if the study was conducted in other university departments in Finland and in Spain.

As in for confirmability, it refers to “demonstrate that the findings emerge purely from the obtained data and not from their predisposition” (Shenton, 2004, p. 63), meaning that the researcher manipulates the data too much that it ends up being biased and not realistic. In the same line, Guba (1981) remarks triangulation and reflexivity in order to raise confirmability in a qualitative study. As stated before, triangulation has been applied in this research as well as reflexivity. The data was transcribed by the same researcher and read many times in order to obtain the most accurate and realistic meaning out of it. Additionally, I have been a student from both departments. I was a student in the Spanish department from 2011 to 2014 and in the Finnish department from 2017 to 2019. Therefore, I could see and experience from the point of view of a student how competent the teachers were in terms of 21st century skills and their professional development. That served me to realize some aspects obtained and analyzed in this study and link it to my previous experiences.

An authentic research requires ethical consideration because researchers “go into the field” and collect data from participants (Goffman 1989, p. 130). More specifically, in order to raise integrity and validity of a research, ethical issues need to be taken into account (Chowdhury, 2015).

Marshall & Rossman (2011) suggest that researchers should be fair to justice and moral principles by respecting the participants to an informed consent. In a consent, ethical issues turn to be useful to protect the right and dignity of individuals (Chowdhury, 2015). In the present study, the participants were contacted through email. Once they agreed on participating in the study, the official JYU letter of consent and privacy notice were sent to them, in which the researcher stated to maintain the privacy, anonymity, confidentiality and guarantee to the participants that participating in the study would represent no harm to them. The Finnish participants agreed on signing the printed version of both documents on the interview date, before conducting the actual interview. In case of the Spanish

interviewees, they all sent back the forms filled in before the interviews were conducted.

In line with ethical issues, Gonzalez-Lopez (2011) establishes an ethical viewpoint named “mindful ethics” which corresponds when the researcher is aware and alert to the physical, emotional and political safety and wellbeing of the participants. This aspect was also taken into account while conducting the interviews, as some questions addressed topics of self-esteem and self-image, as well as beliefs and religion.

5 RESULTS

Chapter five focuses on describing the obtained results and presents the findings in connection to the research questions.

The data was analyzed and organized under four main themes and answers to the research questions of this present study. The main themes used for data analysis were: current society, professional development in the institutions (with the subthemes: institutions as departments and; departments towards teachers), professional development – teachers’ reflections on the development of their own 21st century skills learning (with the subthemes: 21st century skills and; learning enhancers) and; teachers’ identity and agency. In the following chapter, the findings related to each theme are presented first theme by theme by developing the subthemes, if any. After the presentation of findings in relation to each theme, the research questions and how these findings relate to them are discussed.

While presenting the findings, this chapter refers to the interviewees, whose interviews are been drawn on, by their pseudonyms stated earlier in this study in order to guarantee anonymity.

5.1 Current society

The traits of current society affecting academia are, in particular, **technological changes, globalization, politics** influence, **social media** and the issues that **immigration and refugees** bring into the society. For instance, technological changes were the fact most discussed by the interviewees (FH, F2 and F3) as digitalization is phenomena that is clearly visible in society and consequently in higher education level. However, technological changes appeared to be a challenge for the oldest interview teacher (S1), as it represented a need to learn new softwares continuously.

When it comes to how current society and its traits impacts in academia, the relevance of **data management** was encountered: *“Important that students know*

where to find information, how to read it and how to assess it critically” as well as *“how to manage the information that they receive or already have”* (F3 and S2) as well as the relevance on preparing students to work in a globalized society. Students were conceived to be more prone and active than before (F3). From the HR figures’ point of view, the relevance **of working “open to the world” and collaboratively** within the university and the society and its organizations seemed to be key because *“things in university and pedagogical development are getting more and more complex”* (FH). This brought to the felt demand of keeping up to date. Both departments worked towards it.

5.1.1 Answer to research questions

In reference to RQ1 (How do the departments support higher education teachers’ development of 21st century skills both for themselves and for their students?), the findings brought up how both departments were sensitive and aware of the changes that the 21st century are going on in the 21st century societies, and concepts such as globalization, digitalization and the importance of data management were mentioned in general by both the HR figures and the teachers. When it comes how the support the department offers towards the 21st century skills, both HR figures acknowledged the changes happening in society and their complexity and how it affected in the university level. In case of the Finnish department, the findings showed a collaboration between subject departments and different units at the university to deal with the complexity with globalization, while in the Spanish case, SH commented on how the changes in society are a clear strategy changing motivator in the department. Both institutions remarked the importance of the collaboration with the outer world in order to meet today’s educational needs. Therefore, the findings showed that both departments supported collaboration skills by collaborating with other institutions – so it boosted their critical thinking.

5.2 Professional development in the institutions

Professional development from the institution view point is a key theme to refer to the first research question, as it tackles how HR figures have addressed the problem of developing learning within the department. The findings in this theme can be divided into two subthemes: institutions as departments and departments towards teachers.

In reference to the subtheme “institutions as departments”, the two departments presented different **goals**. On one hand, FH commented that the core of the department was the continuous pedagogical development as the development of teaching was one of their main cores, which involved keeping the content and pedagogies updated as well as “*support everybody’s individual goals*” and make sure that the employees’ goals go in line with the department’s mission and vision. Additionally, he remarked that the department’s aim was to know the skills and competences needed so the department can make sure that everybody can get those skills and competences. On the other hand, SH stated that the main professional development aim of the department was “*to achieve that every teacher gets accredited, so that they can develop a non-flat professional career*” and that the job could somehow bring them stability, so they could plan their professional career.

Regarding the **aspects that aware being worked on or aspects where the motivation** was put on strongly, SH commented that there was the motivation to find new and innovative ways of the tasks and activities the department does, however, she did not explicate anything concretely. FH commented that the main concern of teachers when it comes to developing professionally was the resource of time. He stated: “*it is a kind of an organizational question that we should make sure that teachers also have enough resources to do things that we ask them to do*”.

However, some **resistance** at the department level was encountered as well. On one hand, SH claimed that the synergies were sometimes very strong to break, especially if there was an aspect that had been done in the same exact way

for years, so that hindered the department to keep trying to find new and innovative ways to carry out its tasks and activities, however, the department was still looking for innovation. On the other hand, FH commented that although in the department there existed a clear freedom to develop themselves, there were points which must have been adopted coming from the university level which they could not do much about.

Both SH and FH recognized some **responsibilities** they have as HR figures. SH claimed that heads of the department of the university (she spoke as a director of a department herself), had HR responsibilities. However, there was no entire freedom to hire and fire employees as the national government had to do a lot with it too. So, herself as a director, could not capture talent as much as she would have liked.

Accrediting the department's teachers' professional development in the area of learning was a concept tackled in different ways for both departments. While in the Finnish department the university supported accrediting learning: *"university tries to support the pedagogical qualification of all the staff"* (FH), in the Spanish department it appeared that the demand for being a qualified teacher was stronger: *"every teacher should be accredited by the external evaluations"* (SH). The data analysis showed how the formal regulations could hinder teachers from engaging themselves in innovating projects that would develop their 21st century skills: *"new teachers find it hard to manage new projects and meet the requirements to get accredited"* (SH). So, the Finnish department appeared to be an enhancer and a promoter of learning while the Spanish department did not seem to have realistic and explicit support towards it. However, being an accredited teacher in Spain was the only way to get an open-ended (or permanent) contract. Additionally, the data showed how teachers in Spain could feel pressurized to prioritize carrying out new projects or working hard to meet the requirements to get accredited. All in all, accreditation for the professional development and employment contracts took a different meaning in both countries. While in Finland it was about getting the right qualifications to teach at the university level (and in

some departments some teachers have not necessarily completed the “pedagogical studies”), in Spain it referred to getting accredited as a full-time teacher with an open-ended contract.

In the Finnish department, management did not prioritize making part time teachers into full timers, basically because it was up to them to apply for another position if they would feel like it. On the other hand, SH remarked that it was a priority to make sure that the teachers could meet the requirements for becoming stable, so they obtained an open-ended contract. She believed that teachers who meet the requirements should be able to work under a stable contract. S3 spoke about attending training courses as a desirable action to do towards getting accredited, although training was not compulsory. In sum, the concept of having open-ended employment contracts was supported in the Spanish department. Thus, it mattered much more than in the Finnish one. E.g. the main differences in conceiving the meaning of accreditation are summarized in “Table 4” below.

Accreditation in the Spanish dpt.	Accreditation in the Finnish dpt.
<ul style="list-style-type: none"> - Accreditation means going through to some extra activities apart from teaching (attending to training courses, conferences, etc.) in order to get accredited. - The university sees is voluntary action. - Accreditation is the key to get an open-ended contract in the department. 	<ul style="list-style-type: none"> - Accreditation means having the “pedagogical studies” completed, either before or after a teacher has started to work in the department. - The university supports and encourages all teachers from JYU to complete such studies. - No relationship between the type of contract (part time vs. full time, temporary vs. open ended).

Table 4: Meaning and role of accreditation of teachers in the Spanish and the Finnish departments

Additionally, **creating a positive learning environment** appeared to be key for the departments to create an appropriate atmosphere to work in. Both HR figures reacted positively when it comes to attempts to create a positive learning environment in the department. Both of them stated that the door of the office

was always open to the staff members to discuss on whatever topic. FH comments that dialogue was a central tool to support professional development in the department, as well as listen to the staff, understand what are their goals, know what they are interested in, know their life situation, have a big picture of all staff members by looking at the organizational goals and build on those based on individual needs. On the other hand, SH focused more on being able to spread, organize and carry out training activities for the teachers. It could be seen how, for the Spanish department, the learning environments were focused on formal learning opportunities, whereas the Finnish department provided with a wider perspective depending on the staff member.

During the data analysis, also some aspects of **constant development in the department** had been raised by the teachers. Generally, all teachers showed themselves positive about constant development for keeping improving teaching. However, F2 commented that it was only necessary to change and develop when issues were getting old-fashioned or did not work anymore; in this sense, development was not imbedded. In the case of Spain, S2 and S3 commented on the importance of developing the taught content according to the current needs as well as developing new and innovative projects.

In reference to the **leading style** of the institutions, both departments' teachers expressed aspects that go accordingly to their satisfaction, except for one Spanish teacher. So, in general, the leading style seemed to support the development of 21st century skills from the management's side. For instance, F1 commented that *"we (teachers) have the freedom to decide by ourselves, deciding format exercises"*, also, there was the possibility to bring up issues to management (F1 and S2). There were possible channels and open communication, so the communication skills were reinforced. F3 commented that there were many opportunities to build up things together with the management, although some aspects were imposed. In this sense, she highlighted that there was no such a big gap between staff and heads of the department. In the same line, F2 did not feel hierarchy (also S1) and thought that heads made decisions because someone had to. However, S3 claimed that does not have any power to decide on some topics as

she does not have a PhD. Her possible suggestions were not that relevant in the council meetings, so she could only participate in some aspects that she could vote. Hence, she did not normally participate in these council meetings as she felt her opinion would not be relevant when it comes to making decisions.

In reference to the second subtheme, how the department supports its teachers, an interesting approach that came up by FH was the “**3 type learning model**”. It shows below in “Figure 1”.

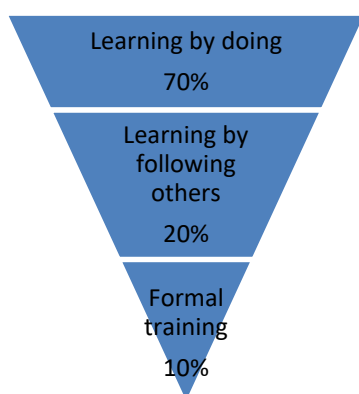


Figure 1: 70-20-10 business model on learning in organizations (McCall, Lombardo & Eichinger, 1980)

It consists on that the 70% of learning occurs while doing one’s own work, the 20% involves learning from others – meaning mentoring, coaching, shadowing by following someone’s work and learn; and finally the rest 10% belongs to formal trainings - as in training programmes and courses. Hence, he strongly believed that most of the learning occurs while doing the work. Therefore, the department did not offer extensive programs, but rather “*have resources to learn from each other and from the team*”. F1, reinforcing his head’s opinion, commented that there was an effective tutor system in which “10-year-teachers” helped newer teachers, representing partly that 20%. They were very hands on, and they provided with material and guide on how to use it. On the other hand, SH stated that “*informal learning is important or more than formal education*” but she did not

specify any method the department was trying to attach to, to reinforce her opinion.

Another aspect that came up in the interviews was the **evaluations** to teachers. External evaluations appeared to be very relevant in the Spanish department, while in the Finish one there existed solely internal ones. So, SH felt like sometimes there was a lack of evidences to make evaluations as there was a lack of contrasted opinions – teachers’ job was not only reflected in class but also on their professional development, with administration staff and in general with the educational community. Additionally, “*teachers of the department and university has periodical evaluations*” every five years. It was then a good moment to reflect on their learning as it was an “auto document”. So, in this sense, it served their self-image, as they could see the how they have performed. On the other side, FH stated that there were no individual evaluations, but rather individual meetings with each teacher at the end of the year with the management to talk about points to improve for the following academic year. In sum, interviewees reflected on **trust** to be highly relevant for the Finnish department, whereas in Spain, external evaluations were seen as key to ensure teachers’ development. Trust was a support tool which allowed both HR figures and teachers work with no added pressure in a more relaxed atmosphere.

Involvement of teachers in different department tasks proved to support their learning at the workplace for both departments, in general. From the HR figures viewpoint, FH stated that “*the department tries to see things in a way that teachers are involved in planning*”, so there was no leadership or management to impose. He claimed it was about to plan everything together with the teaching staff. He felt that the teachers had more ownership in relation to changes. They were more involved in planning, staff meetings, developing days, pedagogical Thursday afternoons. They all discussed pedagogical and organizational changes; how did it affect overall their work. The aspects that the could be decided in the department, were decided collaboratively. As for SH, she did not mention anything about staff meetings where teachers were included when she was asked about the teachers’ reactions when the department was trying to find

new and innovative ways. Nevertheless, S2 commented that the department council held meetings, where only teachers with a PhD could vote for or against certain decisions. She considered that the process was democratic as department's head gathered different opinions and suggested council meetings.

Learning spaces existed in both departments with the aim to support teachers' knowledge, skills and competences and were in both cases optional to attend. However, it was conceived differently by one of the Spanish teachers. While in Spain there was a strong emphasis on attending formal courses as well as more specific dynamic courses (seminars or workshops), Finland relied more on the "3 type learning model" discussed previously. When it comes to learning practices (so no training itself involved), both departments highlighted pedagogical guidelines as resources which teachers were free to look at when needed. Additionally, in reference to possible informal conflicts at the workplace, both HR figures talked about them as learning opportunities for the ways of coming to terms thanks to them. In the case of the Spanish department, there used to be sessions for half a year about how to deal with different conflicts at work. In the case of the Finnish department, mediation of conflicts by external specialists had been done in the past. Nowadays it was not as common because there were not so many requests on it. Also, in both departments, if any teacher made a specific request about a certain area that he or she would have liked to deepen, the training took place as well as it was open to the rest of the team. From the teachers' perspective, the Finnish teachers highlighted training opportunities about inclusive learning, flipped learning, workshops that last for a day or weekend, compulsory meetings to attend, leisure activities – as a seminar cruise (F1), language and research courses that empower teamworking (F3). F2 commented that there was the possibility to attend to all sorts of training: "*do what you feel and need at the time you need*". The courses in the Spanish department courses were rather traditional and focused on teaching techniques or research (e.g. a course in Mendeleev). Also, S3 claimed that the courses mostly worked as an introduction to a new concept, methodology, etc. but not so much to experienced teachers who

expected to update their already existent knowledge. Thus, that appeared to be not that optimal for some actual teachers' needs, in the case of Spain.

In reference to HR figures organizing **learning spaces** for teachers to develop their understanding and pedagogical qualifications to be able to support their students' **development of the 21st century skills**, both SH and FH stated that the management had the responsibility to support the development of such skills, while the responsibility of implementing them was on the teachers. FH talked about the responsibility of the management to make sure to have the resources to work with the skills' development for themselves. For instance, if time management needed to be developed, the management needed to make sure the teachers have enough time to complete their tasks. In the Spanish case, S3 stated that there was an inexistence of a service from university tackling 21st century skills. Indeed, the participant did not consider the staff meetings they had as a chance to develop her communication skills, and possibly critical thinking and problem solving either. Also, teachers' adoption of 21st century skills was supported by a technician who helped to manage the innovative approaches and competences of the department (S1). Therefore, it showed that there was an inconsistency of the understanding of its development among the Spanish teachers. In contrast, F2 stated that the guidance on the 21st century skills development was constant as *"teachers are collaborating and uploading stuff to Moodle"*, for instance. In similar way, F3 was convinced that *"critical thinking is embedded in the academia environment"*.

In reference to **qualifications required**, the findings showed how they were different in both departments. On one hand, FH stated that the "pedagogical qualification" was the key to get a job in their department as a teacher, while the requirement of formal pedagogical qualifications was quite unusual in the university level in general. Also, teachers did not necessarily need to have a degree on the courses they teach in the department. For instance, if the teacher was teaching "Academic reading and writing" in English, he or she did not need to have a bachelor or master's degree in English philology, but some related degree (bachelor, master or PhD) and previous teaching work experience were highly

considered. On the other hand, SH stated that the key qualification was having completed the degree in which the teacher is teaching. For instance, if the teacher was teaching in the Pedagogy degree program (which differs from the “pedagogical studies” concept in Finland), he or she needed to have completed a bachelor (and preferably also master and PhD) in Pedagogy. While recruiting, it was also desirable that teachers had both the teacher and researcher sides, which sometimes was not easy to find teachers with the skills from both sides, as most of the teachers lacked the research side. To sum up, in the case of Finland, having a bachelor or master’s degree in the specific courses the teachers were going to teach, was not a prioritized formal requirement, rather having completed the “pedagogical qualification” and have completed a bachelor or master’s programme in a discipline related to the courses which the teachers are going to teach. In the case of Spain, having completed a bachelor’s degree in the bachelor programme the teacher is going to teach was the main requirement. The “pedagogical qualification” concept does not exist as such in Spanish universities.

Regarding **skills and competences required** for hiring a teacher in the department, the Finnish department highlighted strong teamworking and collaboration skills. As in for the Spanish department, SH stated that teaching capacity, learn to learn, communicative skills, initiative, autonomy, responsibility, follow schedules of teaching, guidance to students and be familiar with the softwares the department uses, such as Moodle and Docnet, were desired skills and competences to get hired.

5.2.1 Answer to research questions

In sum, the data related to the theme “Professional development in the institutions” provided some important findings with respect to RQ1 (How do the departments support higher education teachers’ development of 21st century skills both for themselves and for their students?) and RQ3 (What kind of differences are in terms of professional development of 21st century skills in the selected university departments in Finland and Spain?).

The Spanish department showed itself more bureaucratic and attached to formal aspects that might hinder actual 21st century skills development. There was a focus on getting formally accredited which might simply distract teachers to simply develop their job day by day and focus on constant development at work. There was the belief that getting accredited was the best that can happen to a teacher. That is because permanent, continuing job-positions are highly valued in the Spanish society in general, due to the societal development and their effects of recent recession in employment in the 2000s.

Therefore, it appeared to be less trust in the Spanish society, as teachers had to go through external evaluations and they were not hired entirely by the university, but from the national level as well. Also, in Spain there was a clear focus on having or not having a PhD, while in Finland it was more disregarded when it comes to hiring a teacher. Some teachers in Spain might have felt with less power than the ones who had completed a PhD. That hindered and therefore did not promote organizational learning, as well as might have increased competition and conflicts between colleagues. On the other hand, the Finnish department focused more on the everyday learning and life.

When it comes to learning opportunities, both departments offered learning opportunities, however, the approach was different. The Finnish department conceived informal meetings, for instance, as learning opportunities as well as they felt they work their communication and teamworking skills. On the other hand, in Spain learning opportunities were seen as traditional courses or more dynamic concepts (such as seminars, workshops, etc.). A relevant aspect to highlight, is that the courses might feel too basic for experienced teachers. Hence, formal training did not seem the best way to develop professionally neither teaching or research aspects nor either 21st century skills, but rather open and more interactive spaces, as SH mentioned. Accordingly, 21st century skills were seen in a more transversal way from Finland, and more from a traditional kind of way, in which formal training would be needed to develop them in Spain. All in all, while SH emphasized the fact of teachers attending training, not only in the form of

courses but also national and international congresses, FH did not refer to professional development towards this side, but rather learning at the workplace taking into account the “70-20-10 learning theory”.

In sum, the main findings with respect to RQ1 (How do the departments support higher education teachers’ development of 21st century skills both for themselves and for their students?) and RQ3 (What kind of differences are in terms of professional development of 21st century skills in the selected university departments in Finland and Spain?), were that in both departments there was a support towards the professional development, yet in different perspectives. In the case of the Spanish department, there was a strong relevance of training opportunities as a means to develop 21st century skills, instead of seeing 21st century skills as skills which could be worked by working in the department with colleagues (as it happened in the Finnish department).

5.3 Professional development – teachers’ reflections on the development of their own 21st century skills learning

Professional development from the viewpoint of learning and applying methods of teaching 21st century skills tackles with the core of this master thesis: 21st century skills and its development as well as aspects that promote their learning in the departments, as the subtheme 1. Teachers reflected on the development of the skills via their own experiences as learning them. Thus, the findings in this theme are related to the development of the 21st century and learning actions which enhance their own learning on 21st century skills (learning enhancers), as the subtheme 2.

Starting with the first subtheme, 21st century skills, the interviewees were asked about how would they react in different situations where they had to use some specific 21st century skills.

According to the findings with respect to **creativity skills**, both the SH and FH were aware of the effort it implies to develop them. Creativity is not something given automatically, as it requires some time and effort to become creative, therefore, it cannot be forced. The teachers' perspective, in contrast, showed how they had applied several ways to develop both their students and their own creativity skills in class situations, as it shows below (Figure 2).

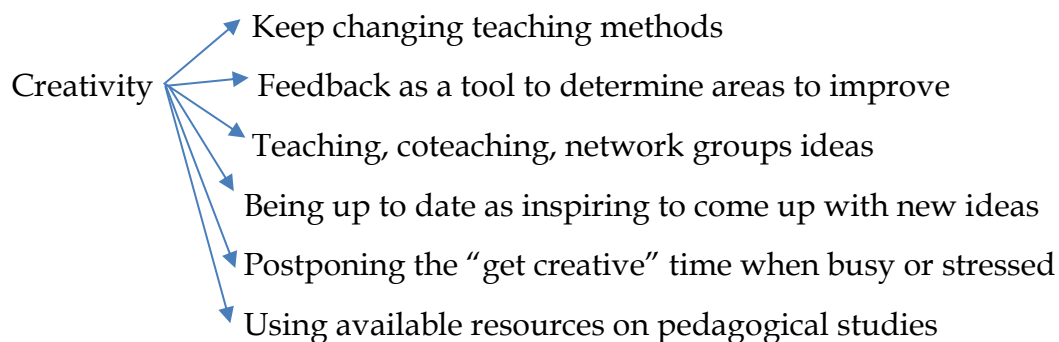


Figure 2: Teachers' development of creativity

Regarding **time management** skills, both HR figures remarked it as the main concern of the teachers regarding constant development and adaptation at work, and indeed the skills that should be more worked on from both the HR figures and the teachers.

Both FH and SH commented how there was in general a lack of time for teachers. While FH brought it more towards the side of not having the change to develop creativity skills because of lack of time, SH remarked that teachers did not only have teaching demands, but also research and other possible tasks in the department, so that required time from them too. So, that also affected to lack of time to innovate as the worry that the teachers presented sometimes was how to find more time, especially when tasks that were not a priority came up. This idea was reinforced especially by S2 when she explained how difficult was to keep up with two tasks: being a teacher and being a researcher under the same working contract, as tasks tended to pile up. Hence, although she tried to organize herself to the maximum, she brought some work home for the weekends, still. It was hard for her to define her workday due to time management. So, SH commented

that it was key for teachers to recognize the tasks that do not represent extra value and get convinced about a change to invest some time in working on it to happen. Additionally, F3 stated “*sometimes there is no time to implement changes due to the packed schedules*”. All in all, SH considered time management as a very important skill as there were demands from different sides. She stated that it was important to prioritize and be organized, “*otherwise the time at some point becomes finite*”.

While F1, F2, F3 and S1 spoke about time management skills in a more positive way, S2 and S3 presented some issues with them. F1 commented that, as a part timer, he found enough time to carry out his tasks as well as innovate whenever he felt like. However, he stated that he did more work than his working contract states. Therefore, he overdid his job. F2 commented that it could get intense at some points, however, she considered herself a quick person who does not postpone tasks.

In general, teachers presented coping mechanisms to deal with time limits or in order to cope with the above-mentioned situations. They are summed up in Figure 3.

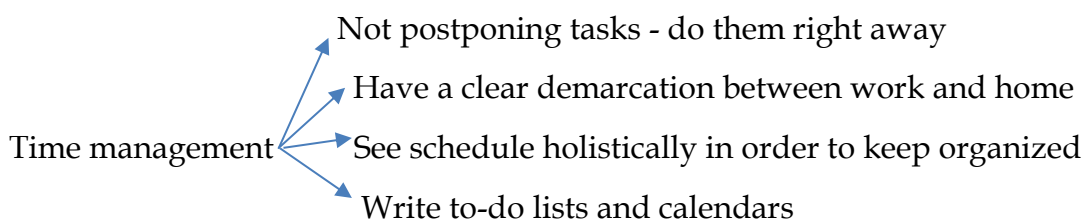


Figure 3: How teachers develop time management skills

However, S3, one of the participants who showed to have issues dealing with time management, mentioned that she slept less when there were many tasks to attend. Still, she pointed how she tried to keep organized and prepare her lectures and seminars during the summer, so she could make sure everything was in order again the weekend before the class had to be implemented, as well as write articles during the weekend (as it is a task that she enjoyed the most doing). However, she tried to keep some space and time for herself as well.

Stress management skills appeared, like time management skills, demanding further learning, according to the findings of this study. Nevertheless, all mentioned some coping mechanisms, except for F2, who did not agree to have any time or stress management issues. For instance, F1 had a mental strategy of categorizing tasks into A, B or C, being A the most time consuming and demanding and C the smallest time consuming and demanding. He liked to get rid of the small tasks such as give feedback to students first, and then focus on the biggest task. F3, F1 and S2 found writing to-do-lists and keeping tasks organized helpful, so they were aware of the next tasks to be done. S1, S2 and S3 focused on socializing with colleagues and doing some sports in order to cope with stress.

When it comes to **collaboration skills**, it can be seen how they are further developed by the Finnish department more than the Spanish one. SH claimed that the step of *“we reach further if we collaborate”* was missing in the Spanish department spirit. That statement was reinforced by S2 as she mentioned that *“teaching is very individualistic”*. S3 spoke about the group with different teachers and researchers in Spain (examined in *“creativity skills”*). S3, when asked about how the department develops curricula and methods, mentioned that the team investigated collaboratively the aspects that can be changed. However, none of the Spanish participants specified daily situations where collaboration skills were enhanced. So, collaboration skills appeared to be in set situations rather than a mindset. On the other hand, from the Finnish side, F2 stated that teachers work together and *“do stuff”* together continuously. F3, when asked about ways of keeping improving teaching and pedagogical expertise, mentioned that coteaching allows planning and conducting teaching together with someone.

Teamworking skills were actively put into practice by the participants. have been shown to be highly put into practice by the participants. Although SH commented on how people were not actually always willing to collaborate when it came to teaching, the Spanish teachers reacted positively towards it as they mostly appreciated collaboration from their colleagues when they started to work in the department: *“if it would have not been for my colleagues, it would have been almost impossible to carry out teaching”* (S3). Also, S3 got support with ICT

skills, for instance. S1 highlighted how important “professional friendship” was for her. She liked that they value each other’s work and made her feel comfortable for that. When it came to the Finnish teachers, all of them showed appreciation for collaboration among colleagues. For example, F2 explained that in the department there was a 100% of “teamworking and learning from each other” culture. She valued there is such a multicultural team, where respect, innovation and ability to work together was excellent. She also valued empowering each other to try something new.

Demand of **flexibility skills** has increased because there is more diverse diversity in students’ realities, for example. That means students that study and work at the same time, students with special needs and older students that have family responsibilities, among others. So, it becomes a problem if a teacher cannot adapt himself or herself.

Overall, teachers addressed flexibility skills positively when it came to develop their own flexibility skills to reflect it into their practice (see Figure 4).

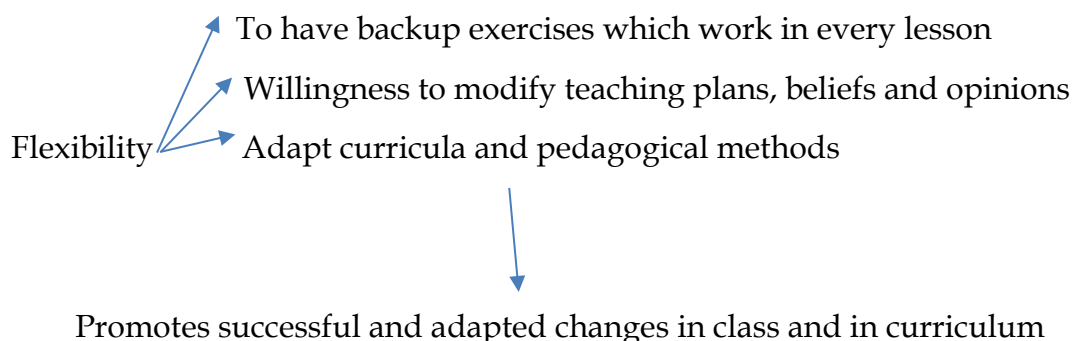


Figure 4: How teachers develop flexibility skills

Additionally, F3 believed that flexibility comes from experience, so, when she started her professional career as a teacher it was harder for her to be flexible. Teaching adults had made it easier for her to be flexible as she can ask “*If you cannot be there, how would you like to go about this, what do you need?*”.

In reference to **communication skills**, SH highlighted them as they “*are very relevant for quality teaching*”. Two teachers explained situations where they had to use communications skills effectively in order to boost students’ communication

skills. F1 had some cultural clashes with a group of the students related to communication, as the students came from different countries and expected him to speak more during the classes. It took some time for the students to get used to his style. However, he considered that his teaching method involved a lot of speaking and so, students were expected to have confidence while communicating as well. Some Finnish students were not confident of their language skills despite that they were good at English. Similarly, S3 commented that she offered some guidance sessions where students could go and discuss issues related to shyness when it comes to do presentations in front of a class. In this way, the teachers also showed how they had learnt about their own communication skills.

The ways on how teachers develop communications skills are shown in Figure 5.

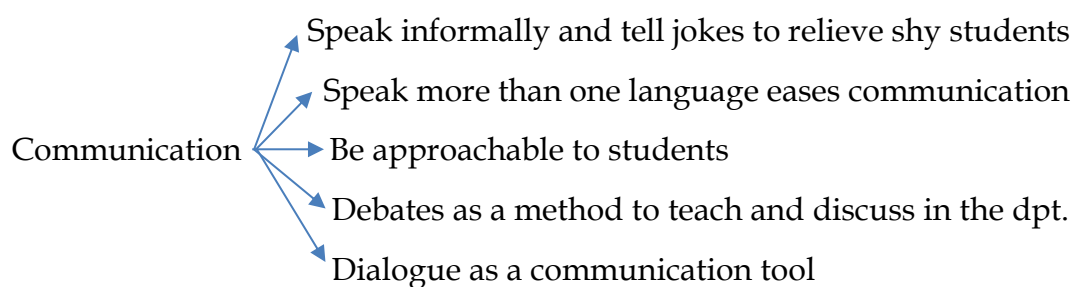


Figure 5: Ways of working and developing communication skills both in class in a department level

Regarding **problem solving skills**, all participants expressed positive reactions towards them. The data analysis proved that problem solving skills were strongly related to other 21st century skills, especially with communication skills. For instance, F2 explained a situation where two students had a problem which was close to develop into bullying. She solved the problem by speaking with each of them separately. In the same line, F1 stated that a way he had for solving problems within the department, was to be very vocal and bring up the problems that affected negatively to the atmosphere in the department. Firstly, he did not disagree at first instance, so he placed the question (regarding the problematic situation) as neutral as possible first. Moreover, F3 valued positively the fact of being able to negotiate and decide many things among teachers. S1 dealt with problems

in classroom by doing reflections and debates with the students. She analyzed the situation and saw if she could intervene to help or if not. S2, when asked about what she would do if a new method has been adopted in the department and she has not known about it, she said that she would have talked with the management and would have liked to get trained in that, if needed.

In sum, problem solving and applying problem solving skills was addressed in the ways presented in Figure 6.

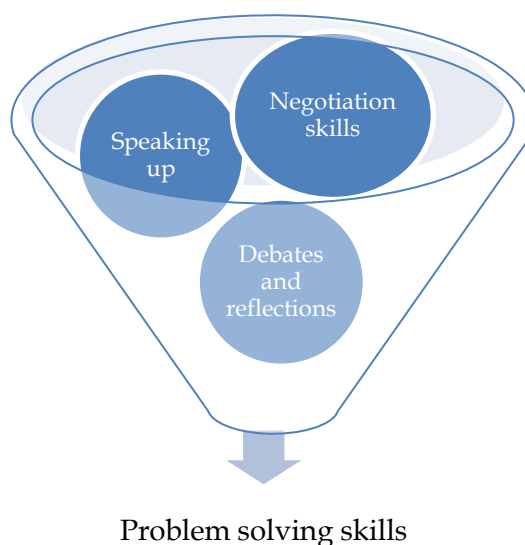


Figure 6: Communication skills as key to develop problem solving skills

Critical thinking skills were one of the 21st century skills that interviewees brought up quite prominently. For example, F3 considered critical thinking skills are embedded within the academia world, as it, for instance, with discussing with colleagues as well when she is asked about reaching a consensus on a restructuring at an organizational level. She also considered feedback as an opportunity to develop critical thinking skills. For instance, when she got a negative feedback, she thought *"I wonder, where does this come from"*. F1 had a similar opinion, as he said that those skills develop naturally while teaching. S2 put big emphasis on making her students think critically overall. S1, same as F3, made sense of feedback by thinking critically about it: *"Is it good that we work like this and that?"*.

In reference of **ICT skills**, the older workers (F2 and S1) presented more challenges than the rest of the participants in the data analysis. Both got support from their colleagues when needed. In the case of the Finnish department, younger part time teachers offered seminars to the rest of the department regularly. With respect to the other participants, there were different views on ICT usage. On one hand, S2 tried to use Twitter in class by encouraging the students to create a hashtag of whatever the topic they were treating. F2 used Kahoot, videos, chats, Wikis, etc. On the other hand, S3 and F1 stated that they could use ICT more.

Moreover, Moodle software has emerged as the main personal learning environment to use for both departments. It has been reported to be useful tool for handing out material, to communicate with students, to collect material for evaluation, for sharing basic information, with useful wall, providing with useful message box and because it is linked to Korppi (another virtual platform which Finnish teachers use), among others.

So, for **21st century skills as a whole**, the HR figures had similar thoughts about them. FH stated: *“very relevant, those skills are what we teach in the department”*. So, he mentioned it is important for the teacher to have the skills themselves as it was essentially what they teach. He claimed that the entire department should have been aware and put into practice the above-mentioned skills. When the HR figures were asked about if the teachers have the skills, they both had a similar opinion again. On one hand, SH commented that in general, although they did have them, there was always space to keep improving them, and that was what precisely the department needed to provoke. It was about using the competences in a more active way. All in all, she stated that the department could put more effort to be more competent. Similarly, FH commented that the skills could always be developed and the performance in front of a situation with a 21st century skill might vary depending on the emotions that can emerge. For instance, *“it might be that a teacher is very good at problem solving and at critical thinking, but at a certain situation where emotions take over, he does not perform as well as usual”* (FH). Hence, essentially, it was a balance between the skills an individual

had and the situation plus what it required, as well as other factors affecting the situation. The data analysis has revealed that, in both departments, it was regarded that the responsibility on developing such skills in on the each teacher and the management should “*support the development of those skills*” (FH) and “*the university eases the acquisition of such competences, spaces, activities, puts in front learning environment more dynamic and open rather than traditional courses*” (SH).

Based on the data analysis, the following ways were found effective for enhancing teachers learning (subtheme 2): reflect on learning, giving ownership to teachers, feedback and leisure time. In the following lines, they are described in more detail.

First, **reflect on learning** resulted to be an efficient and common activity to carry out for all the teachers, for instance, by being conscious of the reason behind why students in class were not alert, a teacher could reflect on her own teaching agency (F1). In the Spanish department, teachers were evaluated every five years from external sources. That served to teachers to reflect on their own competences and elaborate their personal teaching philosophy and culture of the department.

After analyzing the data, the most common methods that teachers used to reflect on students’ learning are summarized in Figure 7.

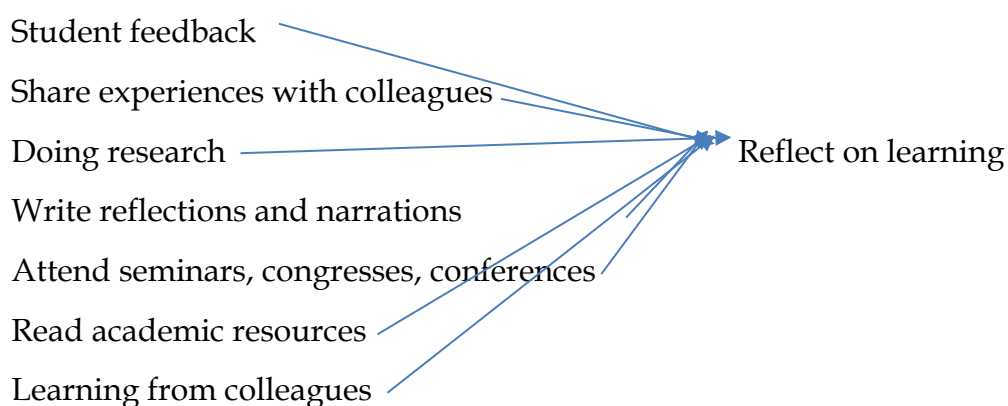


Figure 7: Learning enhancers which promote self’ reflection

Furthermore, management **giving ownership to teachers** resulted to be positive for teachers. By making them engage in new department projects, they developed 21st century skills. However, the time was not always available.

Feedback was also a learner enhancer only from the Finnish teachers' perspective, as it enables reflecting on teaching practices. F1 was very positive about receiving feedback, as for him it was the clearest way of getting to know how he was performing as a teacher. He also felt gratitude as he wanted to *"make things better"*. For F2 and F3, it was also very positive: *"I might take changes based on the feedback I get that I find relevant"* (F2) and *"taking new ideas from feedback rather than seeing it as a criticism"* (F3). When it came to receive negative feedback, F2 thought: *"It is part feedback, I do not expect to have glorious reports"* as well as *"negative feedback is about attitude [...] it is equally important to remember the good things"*. However, in the Spanish case, feedback was not conceived as positive as in the Finnish department: *"makes me feel uncomfortable"* (S1, when she got negative feedback).

Lastly, **leisure time** was also considered by some teachers as an activity to enhance their learning process. *"Do something together while have a bit of a laugh, being relaxed, combine work time and leisure time as a win-win situation"* (F3) and *"I consider sharing these more informal moments as very important for professional development"* (S2).

5.3.1 Answer to research questions

The analysis of data related to the theme three (Professional development - Teachers' reflections on the development of their own 21st century skills learning) allowed to address all research questions and so, to find interesting aspects related to: *"How do the departments support higher education teachers' development of 21st century skills both for themselves and for their students?"*, *"How does professional development affect teachers' perceptions of their identity and agency?"* and; *"What kind of differences are in terms of professional development of 21st century skills in the selected university departments in Finland and Spain?"*.

In reference to the 21st century skills as a whole, both teachers and HR figures agreed on that the responsibility on developing them lays on the teachers. Nevertheless, both HR figures confirmed that they were responsible for providing with support that eases its development. While SH emphasized the open and dynamic training opportunities, FH focused on the time resource, as it was the most critical one according to him in the department, stating that the management should make sure there is enough time for the teachers to conduct its tasks. Additionally, it could be seen how Finnish teachers, in general, saw 21st century skills in the department as more transversal and therefore, practiced in general by working in academia, whereas Spanish teachers tended to relate such skills into quality technicians or specific training departments that tackled their development, raising some inconsistency in their beliefs on who developed them. Therefore, Finnish teachers were more prone to benefit from their development and reflect it in their agency.

Time management skills resulted to be an issue for the participants, in general. The support from the management to make sure the teachers had enough time was key to ensure a proper development of these skills, as well as teachers working deliberately towards managing the time stated in their working contracts more efficiently. Without time management skills, teachers' agency gets resented, as, for instance, some teachers stated that they felt they did not have enough time to attend all tasks they should have paid attention to, as well as hindered stress management skills. In the least desirable cases, the youngest Spanish teachers brought some work home during the weekend, affecting then the life-work balance. The fact of being less experienced workers might be related to the fact of not having time management skills as developed as expected, as S1 (older teacher in the same Spanish department) does not present clear issues with the development of these skills. Having that stated, mentoring could be an informal learning practice to implement in the department, so older teachers could share their experiences and address time management issues to younger workers, at least in the Spanish department. In this way, younger workers could develop further their stress management skills.

The findings also pointed out how creativity was partly hindered by the lack of time management skills, resulting in that teachers sometimes did not engage as much as desired in innovation processes that would enhance the development of 21st century skills. Additionally, the concept of creativity was somehow understood in both departments as a skill that should be used in particular situations where it is needed, rather than as an overall goal to be achieved, to have “a creative mindset”. Changing the mindset towards a more entrepreneurial view might empower “finding the time” to be creative as it would be worked constantly.

In reference of collaboration and teamworking skills, it was found that those skills could be developed further in the Spanish department, according to SH. It seemed individualism in teaching was an assumption for S1, for instance.

According to findings, communication skills appeared to be a must in a higher education department. Teachers were encouraged to help students to reflect their communication skills, especially those who presented issues in self-confidence. Regarding RQ2, we saw how debates could approach students and teachers to be more culturally sensitive and therefore develop their communication skills more consciously, as nowadays communication skills are very related in tolerance in respect, especially when it comes to other cultures due to globalization.

For ICT, referring to RQ2, the Finnish department had a good initiative in which that part timers (which tend to be younger workers) help older workers to develop their ICT skills so they could learn it themselves empowering not only their everyday life, but also their teaching agency by tutoring. Although S1 got help from her colleagues by getting the ICT work done by the others, a tutoring system might be beneficial for the develop of such skills, similarly as in the tutoring system that could be beneficial for enhancing time management skills within younger workers.

Furthermore, problem-solving skills were strongly related to critical thinking and team working; critical thinking skills were strongly related to problem

solving, creativity and feedback as a learning enhancer; and flexibility skills to collaboration.

To finalize with the 21st century skills, a significance difference in developing demands among the domains of intrapersonal, interpersonal and cognitive 21st century skills was not found. That means that there were no differences in difficulty on achieving the skills depending on the domains, rather equal and each of them presenting specific aspects to consider described in the description of this theme. Hence, it can be observed how especially time management skills (from the intrapersonal domain), ICT skills (from the cognitive domain) and collaboration skills (from the interpersonal domain) are the ones which would need some more extra support from the other 21st century skills described previously in the results of this theme.

In sum, 21st century skills and the learning enhancers stated above have proven to engage teachers to reflect on their identity and agency considerably. However, time management skills appeared to be the main skills that hinder the development of others. The relation of time management skills and other skills is pictured in the Figure 8.

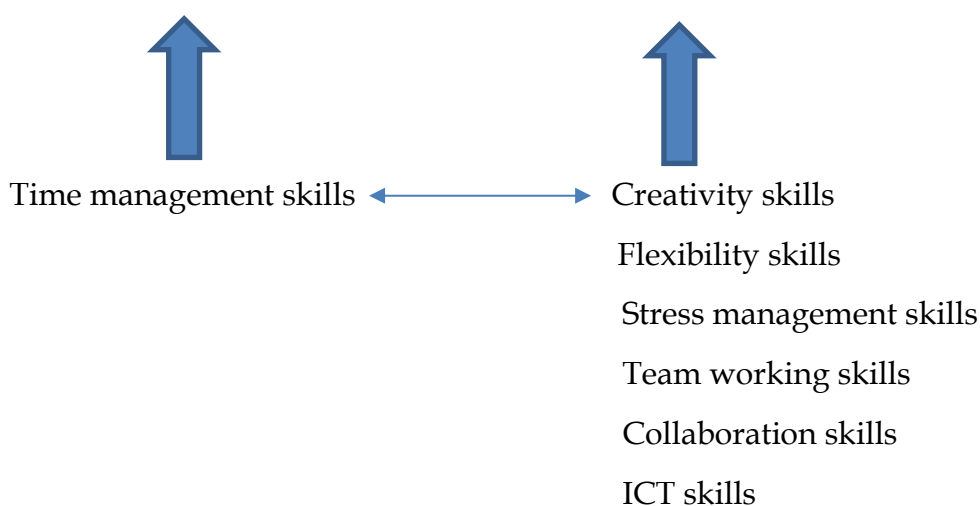


Figure 8: The importance of time management skills for the development of other 21st century skills

5.4 Teachers' identity and agency

During the data collection, interviewees, teachers brought up topics related to their identity and agency as higher education teachers, for instance, relationship among them and methods used in class as well the role of self-esteem, self-image and motivation plays in developing identity and agency.

Agency aspects were analyzed when teachers expressed their **relationship with colleagues**. Only one teacher had encountered confrontation with other colleagues. S1 explained extensively in the interview a conflict she had with a colleague some time and clarified that when a colleague made a wrong assumption in a meeting about her, she talked with this colleague separately so they could solve the problem by themselves. In the case of the Finnish HR figure point of view, he mentioned *"teachers in most cases like each other, in some situations management is needed to solve problems"*.

Also, naturally teachers reflected on **effective methods** that put in practice in class. In general, teachers were aligned with what is required nowadays and it boosted the development of 21st century skills of themselves and the students. For instance, F1 stated that he did not use the "code and quote" strategy, so, he did not pour information to the students. He gave the students the tools on where to find information, process the information so the students could use such tools according to their personal needs. Also, F2 remarked blended learning and online courses, in which students could write, speak or present a video about the content. Similarly, S1 commented on not that many face to face classes and online classes with a notorious use of ICT. Also, when face to face classes, she liked to generate debates and reflections in order to make students develop a critical vision with the help of the rest of the peers. Also, she remarked the importance of having up-to-date material and content as the information keeps changing. Additionally, three teachers remarked that applying different methods in class was easy because the students were adults. For example, F1 felt that he could implement trust in adults much more than with children as there was no need *"to be a master with them"*. *"It is a blessing situation"*. F3 explained how dealing with adults

allowed to negotiate situations as long as she knew the very core of the course and the assignments.

When it comes to teachers' identity and expertise, the data analysis reinforced the understanding of earlier research findings on how self-esteem, self-image and job motivation are key elements to contribute to them.

Regarding **self-esteem**, teachers brought up how changes at work due to globalization and daily changes that keep defining their job affect their inner themselves. For example, F1 stated that teaching suited him well. It boosted his self-esteem the fact that he found jobs steadily specially in a city as Jyväskylä, where competition with teachers was high. F2 claimed that she felt fine with the changes developed at work, although sometimes digitalization and expectations brought her some issues. For instance, she got to know Padlet some time later than her colleagues. However, she said that it was about accepting one own's limitations and maturing. As in for F3, she had a good feeling about her job as it created a positive loop and vibe. The fact of reflecting on learning gave her professional development feeling which boosted her self-esteem. S3 considered that she had learnt so much so fast. She was someone with many insecurities before starting to work in the university level.

According to the findings of this study, all teacher participants felt that **self-image** got reinforced by being a university teacher. For instance, F1 explained his switch from studying journalism into teaching. The fact of him being considered talkative and social made him interested in teaching, more than in journalism (in which field he felt too stressed about crazy schedules). So, he found that the role as a university teacher suited his personality. F3 stated that, by working as a university teacher, she could be herself, also because she was hoping to become a university teacher at some point. She considered she could still develop herself further and learn new things, so that always created a positive effect on her. For S2, due to her young age when she started to work in the university, she had to create her own self-image, especially when she was in contact with the students: "students have to respect you" - "don't be someone you are not". Still, she felt that she had this young age handicap. She further reflected about being more

critical nowadays than when she started to work six years ago in the university. Lastly, S3 commented that her self-image had been reinforced as she won self-confidence by working as a teacher. Moreover, F2 commented that being a teacher mattered *because “you are trying to help another person move forward in their life”* as well as *“we (teachers) have to be prepared ourselves because we actually represent work life”*, she considered herself *“as a small link in the chain of whatever they are going to do, but it could be a link that impacts them in such a way that actually affects other people”*.

According to the findings of this study, having a **motivating job** has a direct effect to in teachers' identity. For example, F3 spoke about the impact of academia in real world, explaining that working in academia effects on how she looked at things, when watching TV or listening to the news. Similarly, it happened while having conversations with family. She looked at things from many points of view and her discussions even outside work were more holistic. Hence, it shaped her personality. On the other side, S1 commented that teaching helps her grow as a person because she spoke loudly and that helped her to change some mindsets she had. That made her feel satisfied with her job. Also, S3 commented that having started to work in the academia world had given her some trust. She had not changed the idea of teachers she previously had, however, she reflected more now on the relevance of teachers and felt much more the impact towards the society (similar opinion to S2), so she felt she must take her job with responsibility. Hence, she felt motivated to continue within academia.

An interesting point to remark in the data analysis is the **teachers' working conditions** that concern their identity and agency. Both HR figure commented that both departments had older teachers with full time contracts and part timers. However, working conditions were different in the departments. In the Spanish case, FH claimed that employees had different needs depending on if they had children at all or if teachers were about to retire. However, he had learnt not to put prejudices and thought that someone who could be retiring in one year might be or might be not interested in engaging in new and innovative projects. Con-

trarily, SH commented that older teachers who were about to retire did not engage in new and innovative projects because they realized it would not last from their side. Additionally, she commented that the fact that younger and therefore, more likely to have short working contracts, did not engage in new projects because they were concerned about the external evaluations and about their continuity in the department. That, hence, hindered the development of 21st century skills. Additionally, SH explained how the department was polarized, as there were either young and not so focused on research teachers or, on the other side, older teachers who were about to retire. That was like this because it is nowadays very hard to get stable contracts and due to the deep crisis in Spain that started in the 2000', which prevented to hire teachers permanently.

5.4.1 Answer to research questions

To sum up, the data related to the theme "Teachers' identity and agency" provided some important findings with respect to RQ2 (How does professional development affect teachers' perceptions of their identity and agency?) as well as RQ3 (What kind of differences are in terms of professional development of 21st century skills in the selected university departments in Finland and Spain?).

Firstly, regarding RQ2, relationship among teachers, it is remarkable to state that the few teachers who brought issues up about conflicts with colleagues stated they solved the situation by speaking with the person they had the conflict with. That reinforces problem solving and effective communication skills.

Answering to RQ3, all teachers seemed to adapt their teaching methods to the society and current needs nowadays. Regarding RQ2, more interactive and activities where students could involve and think more are usual for both department teachers. Hence, 21st century skills were not only developed by the teachers but also reflected into their teaching agency towards the students. It can be seen how their teaching methods are aligned with what the society needs and expects from higher education as students are somehow encouraged to develop their 21st century skills as well. Similarly, when it comes to support to students, the fact

that teachers deal with special needs teachers and multiculturalism has proven to work their flexibility as well.

According to the findings, self-esteem and self-image have shown to be such transversal elements strongly related to identity, as showed and examined in the data set. Answering RQ2, in general, teaching served well to all teachers as they had positive vision towards teaching in their life and their identity. Actions like reflecting on one own's learning, positive feedback, a positive relationship between colleagues, for instance, enhanced identity by boosting the self-esteem. As in for self-image, and as examined in the previous themes, collaboration skills and reflecting on one's own learning helped to develop self-image. When it comes to collaboration skills, working with colleagues was clearly an activity which could reinforce one own's self-image, especially when expressing how good a good work is.

Furthermore, the findings brought up how identity got shaped for some teachers working in academia and how a teacher, especially, was aware of it. The teachers felt that working in higher education promoted thinking more critically and looking at aspects holistically. Also, identity was proven to get empowered by working in academia in one case, in the sense of boosting a teacher's self-confidence, as well as made two teachers realize the relevance in society of teachers. Regarding what kind of identities the departments were interested in hiring, both HR figures commented on the "learn to learn" competence. Additionally, still answering to RQ2 and also RQ3, it can be seen how the situation in Spain of having a polarized department, might hinder employees to develop their identity and agency, either because they were new in the department and under a non-stable contract or because they were older and about to retire. While FH commented that in the Finnish department the personal and professional implication of teachers at work was totally up to each individual; in the Spanish department, SH emphasized the age as a key element to determine it.

6 DISCUSSION

Chapter 6 will discuss the main findings as well as examine new approaches that reinforce them. The discussion is focused on giving arguments to the research questions of the study.

21st century skills have shown to be necessary to live in the 21st century society. However, they present some challenges as well, as individuals can work towards developing them further.

Digitalization and globalization had a clear impact in organizations. Higher education saw itself affected as well. Keeping updated, being open to changes that promote innovation is considered as key to keep developing professionally. Both studied departments worked, in general, taking into account the complexity of society. They were never static, but always questioning or innovating aspects that no longer fit. Hence, in this sense they are rather dynamic (Bohórquez-Arévalo & Espinosa, 2014). Holland (1995) remarks that the emergence of innovation depends on the given interactions between the different parts in an organization, the aggregation of different elements and the adaptability or learning of its individuals. So, according to the findings, both departments supported innovation and therefore the development of 21st century skills by acknowledging the challenges the society had and by working constantly with the different elements in the departments.

Despite both departments were aligned with the **CAS** approach, they presented different institutional models (Jääskelä et al., 2016), when it comes to **supporting 21st century skills development** in the departments. While the Spanish department presented aspects of the **Specialist** and the **Science-based Renewal model**, the Finnish seems to present rather more the **Network Culture model** (Jääskelä et al., 2016).

On one hand, the Spanish department made a demarcation in the different existing department and its clear work. So, the division of tasks was evident. The generic skills were worked amongst teachers, in most cases, separately from

teaching. The department of innovation tackled with the development of such skills by offering some support when needed. However, there were no specific courses on how to develop such skills. So, generic skills were also expected to emerge as a side effect of forms learning opportunities.

On the other hand, Finnish departments presented a more integrative approach when it comes to including and developing 21st century skills in the department. Generic skills were embedded in day to day activities and learning, by the fact of working in academia. Academic environment was acknowledged to promote staff to develop skills such as collaboration and critical thinking, for instance. Hence, the belief of having and developing such skills was important for teachers, management and ultimately the students. The main focus was on the students and therefore, guidance, teaching and learning were carried out by the same teachers. Overall, learning with and by everyone was the department's mindset.

Despite the differences in both departments, they had a similarity which was conceiving higher education with a role "in creating new ways of thinking and preparing students as change agents in the world of work" (Jääskelä et al., 2016, p. 7).

An indicator that confirms that the Finnish department saw the development of 21st century skills holistically, is reinforced by the **70-20-10 learning and development (L&D) model** (Lombardo & Eichinger, 1996; in Scott, 2014). Hence, knowledge and skills were not taught by specifically in formal learning forms, rather, they were expected to be developed in the most effective way depending on the situation, being learning through one's own work and through social interactions the most common and valuable options. L&D model offers a wider approach than developing skills simply by attending formal courses. The model recognizes that formal learning is only one element of professional development because most of the learning happens at work. So, the model claims that the 70% of learning occurs out from challenging assignments and job experiences. The 20% happens out from the relationships with the rest of colleagues, networks and feedback. Finally, only the 10% happens in formal training, for instance, courses

and seminars. So, the model promotes developmental mindsets, in a way of embracing the philosophy of continuous and self-directed learning.

However, L&D model lacks some empirical evidence (Scott, 2014) when it comes to ensure reliability in this study. Some critics state that the model was solely developed as a theoretical hypothesis, which has not been properly tested and proved in real situations. Additionally, there is a lack of peer reviewed literature available that would corroborate the foundation of the L&D model. However, scholars and practitioners frequently quote the model as a fact, as it has been proven to happen in big corporations when it comes to learning at the workplace. Moreover, Scott (2014) comments on the dangers of extrapolating this model to every company or organization and to every type of worker (being manager, coordinator or employees) as a way to explain how individuals learn at the workplace. Nevertheless, the Finnish HR figure knew and had studied this model to implement it at the Finnish department, and thus, the L&D model represented the main goal as in for how the department should learn and develop.

Another interesting point to remark in this discussion is that **the level of expertise or age** (unlike Dreyfus & Dreyfus, 1986 suggests) of an individual did not determine how well the individual can perform in every situation. As the Finnish HR figure pointed out, expertise depends on the specific area to take care of as well as the emotions attached to it. So, in compliance with the findings, the success of individual learning situations and who can help a learner to develop a skill depends on the skill to be developed itself as well as how familiar the context is for the learner and the emotions involved. an appropriate decision on who can help the learner to develop a skill (through the 20% of the model) comes down to the skill itself to develop and how familiar the situation is for the individual, as well as what kind of emotions bring to him or her (Tynjälä, Virtanen et al., 2016).

Despite both departments presented strategies to develop 21st century skills, some substantial needs were found for their further enhancement. **Time management skills (TMSs)** appeared to be the least developed ones in both departments, except for older workers (one in each department). In the case of Finland, teachers expressed some concerns about how to organize the time better to

have less stress. They sometimes presented difficulties in engaging in new projects as they felt there was no time left. Management was aware of this need and was constantly trying to support it by giving more resources, putting most of the attention in providing with more time. In the case of Spain, teachers expressed their concerns about having to deal with being teachers and researchers at the same. As the data suggests, two Spanish teachers worked from home in the weekend as well. Additionally, accreditations in order to get a stable position as a teacher, received a great deal of attention from teachers, and therefore, allocated too much time on meeting the requirements for so. That hindered them developing other 21st century skills, for instance, collaboration skills, which also resulted to be quite needed in the department.

The fact of not developing as much as desired the 21st century skills directly affects into **agency**. Deepening into TMSs, they have relevance within academia because they are associated with allocating time to the job tasks and higher measures of the job as well as reduce stress levels (Sahito & Vaisanen, 2017). TMSs techniques and behaviors tend to share common traits, as short and long-range planning and time attitudes (Britton & Tesser, 1991). Those techniques were already put into practice from the participants in this study, however, they continued presenting challenges in dealing with the time in a more sustainable way. In order to develop TMSs in both companies, and taking into consideration that older and therefore, more experienced workers, presented less issues with TMSs, they could tutor newer and less experienced teachers on how to cope with time. That could involve shadowing each other's work and hopefully get more specific strategies that would deal with organizing time more effectively.

Another important point related to how skills affect teachers' agency was how the two older teachers in both departments presented some challenges with **ICT skills**, especially when it came to learn how to use softwares which may benefit their lessons and seminars. That has clearly affected their self-esteem and their self-image as teachers in the 21st century. Younger and therefore newer

teachers, in general, have presented to be closest to ICT. Hence, a tutoring program to enhance older workers' ICT skills could be a possible informal learning practice to consider in both departments.

As for both tutoring programs for developing TMSs and ICT skills, support the 20% of the L&D model.

Moreover, **self-reflection** was proven to be key to develop one's 21st century skills and ultimately to identity and teaching agency. Self-reflection featured in many responses when speaking about benefits of receiving feedback. Feedback was one of the most common ways to reflect on how developing the courses. However, the teachers did not "reflect extensively" - carry out this practice too consciously, although some of them mentioned that they would like to have the habit of diarizing. According to Hoy (2004), diarizing could be a way to contemplate actions to help work through teachers' difficulties and detect specific skills to improve. Despite the fact, self-reflection was proven in this study to strengthen one's self-esteem and self-image as well as helping to develop beliefs and values about teaching. In sum, to summarize, self-reflection, agency and job motivation were appeared to be in a continuous beneficial cycle. Self-image, self-esteem, values and beliefs about teaching were developed through continuous self-reflection which benefits continuous developing of identity. The phenomenon of their active reflective progression potentially increased job motivation and helps to continue developing 21st century skills to meet students' and ultimately societal needs. An explanatory figure about how these components feed each other is presented below in Figure 9.

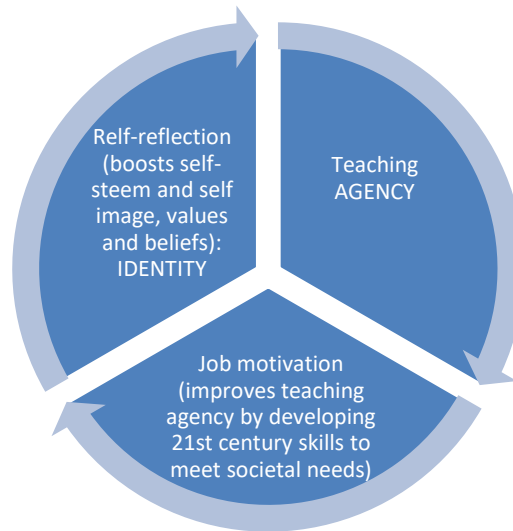


Figure 9: Cycle of self-reflection, teaching agency and job motivation

7 LIMITATIONS AND FURTHER RECOMMENDATIONS

This chapter focuses on limitations of the study. Some recommendations and therefore given.

Two research limitations have been encountered in this study.

The first one addresses the fact that the interviews conducted to the Finnish participants was in English, hence, it was not in their native language. Although the participants showed themselves relaxed and expressed their opinions without any kind of barrier, this study contemplates the possible risk of not getting 100% accurate thoughts and opinions. However, the researcher made some follow up questions at some points in order to ensure that the meaning of their words was the actual meaning the participants had.

Moreover, interviews to the Spanish participants were made through Skype and Google Hangouts. Similarly, that could drive to a more distant feeling from both sides while conducting the interview. However, it definitely helped the fact that the researcher and all the Spanish participants knew each other before hand. That could relieve the situation and make it smoother, in order to get more truthful answer. In this sense, validity turned to be high thanks to that.

The second one entails the research instruments and their validity. On one hand, the study solely utilized semi-structured interviews to both the HR figures and the university teachers from both departments to collect the data. After analyzing the data, the researcher observed how some thoughts, actions and other phenomena could have been explored as well via direct observations whole teachers perform in class as well as in the department, e.g. in a regular staff meeting. That would have, perhaps, given a broader perspective on the results, especially those related to agency issues. Perhaps, the actual competence on the 21st century skill could have been studied and examined more rigorously through direct observations. So, having conducted both research instruments would have brought up a step further of triangulation in the research.

On the other hand, the credibility of this study benefitted from being conducted in two countries. While the credibility would have been increased from more interviewees, it is still a challenge for future research to compare higher education teachers and managers of 21st century skills in more universities, disciplines and departments.

Considering how much societal discussion there is about changing new skills demands and particularly in education about the need to develop 21st century skills, it is remarkable to claim that this is an area which has not actually been studied in depth. Accordingly, there is room for further research in this area. Still, this study can be considered to contribute to this lacking research area.

8 CONCLUSION

Chapter 8 aims to provide with the essence of the findings and literature examined.

In conclusion, this study aimed to find out how do the departments support higher education teachers' development of 21st century skills both for themselves and for their students, how does professional development affect teachers' perceptions of their identity and agency and; what kind of differences are in terms of professional development of 21st century skills in the selected university departments in Finland and Spain.

Based on the findings, the most important ways which higher education can support the development of 21st century skills by their teachers and ultimately their students is by **creating cultures and environments** in where individuals (in this case HR figures and university teachers) learn continuously and are therefore, able to adapt to the constant change process that the society is challenging with. So, the relevance of **promoting attitudes and resources** towards learning to face to continuous new situations is high, and that is how management should support the development of 21st century skills. So, traditional forms of learning, nowadays, ought to be critically considered when it comes to achieving or developing 21st century skills in an organization. In the context of higher education, particularly **self-directed learning** seems to be in relevance. It entitles self-organization skills (including self-reflection) which are crucial, especially from the teachers' side to continue professionally developing. Everyone in an organization should be responsible for their own learning development as well as their performance as teachers, learners and colleagues in order to ensure a proper development of 21st century skills.

While the ultimate responsibility on learning and developing professional is on the individual level, being able to **learn collaboratively** was clearly a goal for both studied departments and is key for ensuring a prosper and sustainable 21st century skills development in higher education as well. Therefore, in order

to support the development of 21st century skills in higher education departments, it is crucial to work on creating strong department teams because they enable more interesting learning and more effective teaching results. Thus, teachers' agency could get highly reinforced. That seemed to be a challenge not only for the studied departments, but also for many other higher education institutions.

Ultimately, working together to create positive and encouraging learning environments as well as increasing the relevance of self-directed learning and collaboration would benefit to develop considerably time management skills (in both departments) and collaboration skills in the case of the Spanish one. It would, additionally, support the development of the rest of 21st century skills that feed from time management skills suggested in this study (see figure 8). Anyway, the dynamics on how the components feed each other deserves further investigation so that their interdependence is understood better.

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APPENDICES

Appendix 1

Interview questions – Vice president

Thank you for your participation. Please, your honesty and broad answers to the following questions are very much appreciated. It is important for the purpose of my study. Bear in mind that your answers will be anonymous and they will be utilized solely in my master's thesis. They will not appear or be used anywhere else. Let's start!

1. What kind of **changes** do you think that there are in the society that demand your attention, when developing teaching at your department?
2. Do you think that your department **is constantly trying** to find new, better, improved, innovative ways of taking care of its tasks and activities?
3. What are the **teachers' reactions** when the department is trying to find new, better, improved, innovative ways of taking care of its tasks and activities?
4. What kind of concerns do the teachers present in terms of demands for **constant development and adaptation** in their everyday work?
5. How do you find the **proposed challenges**? Would you, please, elaborate them from your perspective, how relevant do you find them for yourself and your department/institution? (*cases are explained in the interview*)
6. What kind of **qualifications, skills and competences** are desirable when a teacher is hired in your department?
 - 6.1 What do you think they should be able to do **minimally**?
 - 6.2 What kind of wider **expectations** are there? And from the HRD side?
7. Which groups do you think the personnel at your department mostly belong to: **novice, advanced beginner, competent, proficient or expert**?
8. Do the teachers present remarkable **challenges** in professional development and/or their daily tasks according to **8a age and 8b professional expertise**?

8.1 What kind of **challenges** do you think that teachers have with respect to 8aa collaboration, 8bb creativity and 8c stress management when it comes to **the generational gap and different professional stages**? *Inter, Cog, Intra.*

9. What is the **main professional development goal** of your department?

10. How important do you think it is that the teachers at your department know 21st century skills demands, such as: **10a effective communication, 10b creativity, 10c flexibility, 10d time management, 10e problem solving, 10f stress management, 10g teamwork, 10h critical thinking and 10i ICT.** *a Inter, b Cog, c Intra, d Intra, e Inter, f Intra, g Inter, h Cog, i Cog.*

10.1 Do you think that they have sufficiently the **above-mentioned skills**?

11. How are the **21st century skills developed** in the department?

11.1 To who it lays the **responsibility** to develop them?

11.2 Who and what are the **agents involved** in its development?

11.3 What kind of **guidance** towards its acquisition and development is there? Who guides on their development?

12. What kind of **chances do the teachers have to reflect** on their own competencies, develop and elaborate their own personal teaching philosophy and the culture of the department?

13. What are the **most effective ways** that you have found for your teachers to learn new skills and competences demanded at work?

14. What do you do yourself to **create a positive learning environment in the department for all**? **14a formal, 14b informal.**

Entrevista- Directora de departament

Gràcies per la teva participació. Si us plau, es demana honestedat i respostes amples i reflexionades en la següent entrevista. És important pel propòsit del meu estudi. Recorda que les teves respostes seran anònimes i seràn utilitzades únicament per la meva tesi. No s'utilitzaran a cap lloc més. Comencem!

1. Quins tipus de **canvis** penses que succeeixen a la societat als quals prestes atenció quan desenvolupes la docència al teu departament?
2. Penses que el teu departament està **constantment intentant** trobar maneres noves, millors i innovadores de dur a terme les tasques i activitats?
3. Quines són les **reaccions dels professors** quan el departament intenta utilitzar maneres innovadores per dur a terme les tasques i activitats?
4. Quin tipus de preocupacions tenen els professors en quan a les demandes del **desenvolupament constant i per tant, d'adaptació**, en el seu treball diari?
5. Què penses dels **següents reptes**? Podries reflexionar des de la teva perspectiva com de rellevants els trobes per tu i pel teu departament? (*s'expliquen casos a l'entrevista*)
6. Quines **qualificacions, habilitats i competències** són les desitjades quan es contracta un professor en el teu departament?
 - 6.1 Què haurien de ser capaços de fer **mínimament** els professors?
 - 6.2 Quines **expectatives** hi ha d'ells?
7. Quins grups de personal penses que hi ha més al teu departament: **novençà, principiant, competent, proficient o expert**?
8. Presenten els professors **reptes o dificultats** pel que fa al seu desenvolupament professional i/o a les seves tasques diàries pel que fa a **8a edat i 8b experiència professional**?
 - 8.1 Quins tipus de **dificultats** penses que els professors tenen pel que fa a **8aa col·laboració, 8bb creativitat i 8c control de l'estrès** en referència a la bretxa professional i als diferents moments professionals. **Inter, Cog, Intra.**
9. Quin és el **principal objectiu pel que fa al desenvolupament professional** en el teu departament?
10. Com d'important és per a tu que els professors al teu departament coneguin les demandes de les competències del S. XXI com per exemple: **10a comunicació efectiva, 10b creativitat, 10c flexibilitat, 10d control del temps, 10e resolució de problemes, 10f control de l'estrès, 10g treball en equip, 10h pensament crític i 10i TIC.** **a Inter, b Cog, c Intra, d Intra, e Inter, f Intra, g Inter, h Cog, i Cog.**

10.1 Penses que tenen les **habilitats mencionades**?

11. Com es **desenvolupen i treballen les competències del S. XXI** en el departament?

11.1 Qui té la **responsabilitat** de desenvolupar-les?

11.2 Qui i quins són els **agents involucrats** per desenvolupar-les?

11.3 Quin tipus d'**orientació** hi ha cap a la seva l'adquisició i desenvolupament? Qui guia el seu desenvolupament?

12. Quines **oportunitats tenen els professors per reflexionar** sobre les seves competències, desenvolupar-les i elaborar la seva pròpia filosofia docent i cultural en el departament?

13. Quines creus que són les **maneres més efectives** pels professors d'aprendre noves habilitats i competències exigides al treball?

14. Què fas per crear un **entorn positiu d'aprenentatge per a tots** en el departament? **14a formal, 14b informal.**

Interview questions - Teachers

Thank you for your participation. Please, your honesty and broad answers to the following questions are very much appreciated. It is important for the purpose of my study. Bear in mind that your answers will be anonymous and they will be utilized solely in my master's thesis. They will not appear or be used anywhere else. Let's start!

- For how much time have you been **working in the department**?

- (If necessary). For how long have you been **working as a teacher in university level**?

1. What kind of **change needs or challenges for adaptation** do you see that there are for your curricula and pedagogical approaches?

2. Do you think that **pedagogical development** is (a/an essential) part of any reform and reorganization activities that your department take? Could you give an example?

3. What kind of **workplace learning opportunities** are there at your workplace?
 - 3.1 Do you attend, apart from the compulsory ones, the **optional** ones?
4. How are the **21st century skills developed** (critical thinking, problem solving, effective communication skills, etc.) in your department?
 - 4.1 **What kind of guidance** towards its development is there?
 - 4.2 **Who guides** on their development - (is it rather separated in units or more integrated)?
5. How do you cope with **multiculturalism** in class while teaching? - **Effective communication. Inter**
 - 5.1 What strategies do you use when it comes to interacting with students coming from different backgrounds, countries and/or abilities?
6. How do you **keep improving** your teaching and pedagogical expertise? - **Creativity. Cog**
 - 6.1 What **skills and methods** do you use to make your classes more appealing and interesting to your students?
7. How relevant is for you to **adapt curricula and methods** used in class according to the specific needs of the students? - **Flexibility. Intra**
 - 7.1 How easy is it for you to **bend** when unexpected situations happen in the department?
8. How well do you manage to have **enough and organized time to plan, implement and evaluate** and other possible tasks you have in the department? What are the challenges you encounter? - **Time management. Intra**
9. How do you cope with **challenging situations** that bring issues to work on? How comfortable do you feel with dealing with them? - **Problem solving. Inter**
 - 9.1 What would you do in the case that a **new approach** suggested in your department that you do not really go with has to be taken while it comes to teaching?

10. What are your strategies or practices when there are **many tasks to carry** at the time and you feel stressed? What works the best for you? – **Stress management. Intra**

11. How much relevance do you give to **work together** with your colleagues? – **Teamwork. Inter**

11.1 What are the strengths for you of working collaboratively and **learning from each other** with colleagues and students?

12. How do you **assess** the following situations? – **Critical thinking. Cog**

12.1 How do you perceive a **possible negative feedback** regarding your teaching from a student? What **do you think** when you get such not so good impressions?

12.2 What do you do in order to **reach a consensus** on whatever re-structuration in a meeting with your colleagues and the head of your department?

13. How familiar are you with **13a Personal Learning Environments** (Moodle, for instance) and **13b Kahoot?** – **ICT. Cog.**

13.1 How often and how do you **support your teaching with ICT?**

14. How do you find **the changes at work effect** your person and your job? **14a self-image, 14b job motivation, 14c core responsibilities, 14d self-esteem, 14e beliefs and values about teaching, 14f subject and subject pedagogy and 14g teaching as work**

15. What kind of **practices** have you found beneficial for your own professional development?

15.1 Have you got **habitual practices** for examining and reflecting on your own learning?

Entrevista – Professors

Gràcies per la teva participació. Si us plau, agrairia la teva honestedat i respostes detallades a les següents preguntes d'aquesta entrevista. És important pels objectius de la meva tesi. Recorda que les teves respostes seran anònimes i només seran utilitzades per la meva tesi de final de màster. No apareixeran a cap altre indret. Comencem!

- Quant de **temps portes treballant al departament**?

- (Si s'escau). Quant de temps **portes treballant com a docent a la universitat**?

1. Quins tipus de **necessitats de canvi o reptes d'adaptació** notes a la societat que afecten el teu currículum docent i l'enfocament pedagògic?

2. Penses que **desenvolupar la docència** és una part essencial de qualsevol reforma i reorganització d'activitats del teu departament? Podries donar un exemple?

3. Quin tipus d'**oportunitats de formació professional** hi ha **disponibles** al teu departament?

3.1 Assisteixes a la formació **opcional** també a banda de l'obligatòria?

4. Com es desenvolupen **les competències del segle XXI** (pensament crític, resolució de problemes, comunicació efectiva, etc.) en el teu departament?

4.1 **Quin tipus d'orientació** sobre el seu desenvolupament existeix?

4.2 **Qui guia** en el seu desenvolupament? – (es tracta en unitats separades o està més integrat?)

5. Com lidies amb la **multiculturalitat** a classe mentre exerceixes la docència? – **Effective communication. Inter**

5.1 Quines **estratègies utilitzes al interactuar** amb estudiants de diferents orígens, països i/o habilitats?

6. Com **millores** la teva pràctica docent i el coneixement pedagògic? – **Creativity. Cog.**

6.1 Quines **habilitats i mètodes** portes a la pràctica per tal de fer les classes més atractives i interessants pels teus alumnes?

7. Com d'important és per a tu **adaptar el currículum i els mètodes pedagògics** usats a classe per abastir a les necessitats específiques dels estudiants? –

Flexibility. Intra

7.1 És fàcil per a tu **canviar** aspectes (exercicis, mètodes de docència, etc.) quan situacions inesperades o innovacions sorgeixen al departament?

8. Com t'organitzes per tenir suficient **temps per planificar, implementar i avaluar** i altres possibles tasques en el teu departament? Quines són les dificultats que et trobes? – **Time management. Intra**

9. Com t'enfrontes a **situacions desafiantes o difícils** que impliquen canvis a adaptar? Quant de còmode et sents quan t'enfrontes i les treballes? – **Problem solving. Inter**

9.1 Com actuaries i què faries en el cas que un **nou enfoc pedagògic** que s'ha instaurat en el departament i del qual no estàs massa familiaritzada s'ha d'implementar en la teva docència?

10. Quines són les teves tècniques de superació quan portes a terme **masses tasques** al mateix temps i et sents estressada? Què funciona millor per a tu? – **Stress management. Intra**

11. Quanta rellevància li dones a poder **treballar conjuntament** amb els teus companys de feina? – **Teamwork. Inter**

11.1 Quins són els punts forts per a tu de treballar en col·laboració i **aprendre dels uns als altres** amb els teus companys de feina i alumnes?

12. Com **avaluaries** les següents situacions? – **Critical thinking. Cog**

12.1 Com perceps un **feedback negatiu** o millorable en quan a la teva pràctica docent d'un estudiant? **Què penses** quan reps no massa bones impressions?

12.2 Què fas per tal d'arribar a un consens sobre alguna reestructuració en una reunió amb diferents companys de feina i el cap de departament?

13. Et sents al dia amb les oportunitats que ofereixen els **13a Entorns Personals d'Aprenentatge** (Moodle, per exemple) i **13b Kahoot?** – **ICT-Cog**

13.1. Cada quant utilitzes i com et beneficies de les **Tecnologies de la Informació i Comunicació (TIC) en l'àmbit laboral?**

14. Com consideres que **els canvis al teu lloc de treball** afecten a la teva persona i en l'àmbit laboral? **14a autoimatge, 14b motivació per la teva tasca docent, 14c responsabilitats fonamentals, 14d autoestima, 14e creences i valors sobre la docència, 14f assignatura i la pedagogia de l'assignatura a impartir i 14g la docència com a professió**

15. Quin tipus de **pràctiques** penses que són beneficios pel teu propi desenvolupament professional?

15.1 Realitza **pràctiques habituals** per examinar i reflexionar sobre el teu propi aprenentatge com a professor?