11ᵗʰ ICEEPSY 2020

The International Conference on Education and Educational Psychology

TEACHERS' UNDERSTANDING OF CONTEMPORARY APPROACHES TO TEACHING AND LEARNING

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Abstract

21st century is marked by many changes in all aspects of life. The great changes have led to paradigm shift in education in order to prepare people who can face the challenges of these changes. Research Questions: 1) which elements of the new learning paradigm proposed by the education researchers of Tartu University and Tallinn University are implemented; 2) what promotes or inhibits their implementation? The aim was to find out about the teachers' teaching philosophies which definitely influence students' learning and identify the factors which contribute to teachers either accepting or rejecting the new approaches. The participants were language teachers from Estonian and Czech military schools. First, semi-structured interviews were conducted which focused on the teachers' descriptions of their teaching practices. Then the questionnaire was administered which comprised statements about teaching practices which the participants had to mark according to how often they do them. The questionnaire also included open-ended questions as for what promotes or inhibits the use of the activities. The majority of the language teachers is aware of the paradigm shift in education and implements many of the aspects described in the new paradigm. The factors that have so far inhibited the implementation of the elements of the new paradigm can be dealt with by incorporating different teaching methods and a variety of activities for different learners. It is important that teachers are motivated in developing themselves as teachers, because development of teachers' teaching improves students' learning outcomes. But, in order to do this, teachers have to be aware of their teaching skills.

1. Introduction

Higher education's goal is the creation of lifelong learners, i.e. self-directed learners capable to acquire and retrieve new knowledge on their own. Only lifelong learners will be able to keep up with the massive growth of knowledge and skills in their career and to retool into a new career after their previous one runs its course (Nilson, 2013). In the Estonian Lifelong Learning Strategy 2020 (2020), as well as the Strategy for Education Policy in the Czech Republic until 2030+ (2020), the new approach to learning is described with keywords like focus on the learner, integration of different subjects and fields, teamwork, creative and critical thinking, key competences, not only factual knowledge but also the ability to solve problems. There is a widely shared understanding that learning and teaching cannot continue in the old way due to globalization, technological developments, changes in the labor market and in the society as a whole which have led to a global change in education (OECD, 2008, 2010).

We live in in the 21st century that is the era of globalization. This era is marked by many changes in all aspects of life. Education should be able to prepare people who can face the challenges of these rapid changes. The rapidly changing world today requires people with 21st century skills (Heidmets et al., 2017).

Society and economy developments require that educational systems equip young people with new skills and competencies, which will allow them to benefit from the emerging new forms of socialization and to contribute actively to economic development under a system where the main asset is knowledge. These are often referred to as 21st century skills and competencies, to indicate that they are more related to the needs of the emerging models of economic and social development than with those of the past century, which were suited to an industrial mode of production. Most of the skills are related to information selection, acquisition, integration, analysis, and sharing in socially networked environments (Ananiadou & Claro, 2009).

21st century skills is a complex term which encompasses skills that may be required to be successful in learning, in the workplace and to live effectively in the 21st century (Binkley et al., 2012; Partnership for 21st century skills (P21), 2009). Although frameworks and definitions of 21st century skills exist (e.g. Binkley et al., 2012; Partnership for 21st century skills (P21), 2009), most refer to the same list of competences which includes collaboration, communication, ICT, creativity, critical thinking and problem solving (Tark ja tegus Eesti 2035, 2019; Voogt & Pareja Roblin, 2012). In order to cope, people have to be open to new things, independent, daring and able to constantly learn, capable of promptly making choices and collaborating with experts from other areas, and think and act creatively (Estonian Lifelong Learning Strategy 2020; Strategy for Education Policy in the Czech Republic until 2020).

Ananiadou and Claro (2009) suggest a framework for 21st century skills and competencies which can be considered in terms of three dimensions: information, communication, and ethics and social impact. According to them, typical skills are research and problem solving skills as they both involve defining, searching for, analysing, evaluating, organising, selecting and interpreting information. In addition, the role of communication is significant in the preparation of students to be not only lifelong learners, but also members of a larger community with voice and a sense of responsibility to others. What is more, multiculturalism, globalisation and the increasing use of ICT bring ethical challenges, so skills and competencies related to ethics and social impact are also important for the 21st century workers and citizens (Ananiadou & Claro, 2009).

2. Problem Statement

The great changes in the society have led to paradigm shift in education. Teachers and education systems need to support students, now more than ever, to learn how to better navigate change and develop a mindset conducive to lifelong learning (OECD, 2019a). The former teacher-centered approach to learning is being gradually replaced by student-centered approach to learning which should motivate learners to develop into life-long learners.

According to Jacobs and Toh-Heng (2013) student-centred learning reflects the reality of how students learn regardless of how we teach, i.e. teachers cannot pour knowledge into students' heads; students must actively construct knowledge for themselves and motivate themselves to be life-long learners. So, the task of the teacher has changed from transmitting knowledge to moderating learning environments and facilitating students' acquisition of knowledge. Changing the approach to learning requires changes in teaching methods.

Previous studies emphasize the fact that teaching does not automatically lead to students' learning, so attention should be devoted to the quality of teaching (Biggs, 2003; Jacobs & Toh-Heng, 2013; OECD, 2019b; Postareff & Lindblom-Ylänne, 2008). Several studies have focused on teachers' approaches to teaching and their conceptions about teaching. When teachers shape learning environments, their beliefs about the learning-teaching process and the teaching approaches which they adopt play an important role. (Remmik et al., 2013; Struyven et al., 2010; Teo et al., 2008) Teachers' beliefs and perceptions of learning and teaching affect their decisions and choice of their teaching styles.

2.1. Student-centered vs. teacher-centered approach

The studies on approaches to teaching have identified the student-centered and the teacher-centered approaches to teaching. According to the descriptions, the student-centered approach is a way of teaching which sees a teacher as a facilitator of the students' learning processes, whereas the teacher-centered approach is a way of teaching in which students are more or less the passive recipients of the information that is transmitted from the teachers to the students (Harden & Crosby, 2000; Howard et al., 2000; Kember & Kwan, 2000; O'Neill & McMahon, 2005; Prosser & Trigwell, 1999). Studies on conceptions of teaching have shown that teachers see teaching either as transmission of knowledge or as learning. Conceptions of teaching have been shown to have an influence on approaches to teaching facilitation (Kember & Kwan, 2000; Teo & Zhou, 2017). Teachers who see themselves as transmitters of information to students take teacher-centered approach to teaching, where teacher regulates the learning process (De Kock et al., 2004) and students are cognitively, socially and emotionally dependent upon the teacher (Boekaerts, 2002). In the teacher-centered approach, which puts emphasis on learning through acquiring information, the teacher is the source of knowledge, and students are its passive recipients. In this approach, the teacher's main responsibility is teaching students concepts that correspond to specific learning outcomes (Prosser & Trigwell, 1999).

However, teachers who see themselves as the ones who help students develop and become independent learners, adopt the student-centered approach. (Kember & Kwan, 2000) Teachers who adopt the student-centered approach organize activities that support independent learning, group discussions and students' meaning-making, and they put more emphasis on how students learn. Learning occurs in the

course of problem-solving activities and via constructing and developing new knowledge. The aim and process of learning, also learning to learn are equally important in the process (De Kock et al., 2004), thus promoting the development of lifelong learners.

On the other hand, the results of the study conducted in the University of Helsinki suggest that the theory of approaches to teaching should not be limited to the student/ teacher-centered dichotomy. The two approaches share similar elements, but variation can be captured in detail when focusing on the purpose of teaching. In developing the quality of teaching in higher education, the complex relationship between the two approaches should be considered. (Postareff & Lindblom-Ylänne, 2008)

2.2. Contemporary learning paradigm

Significant advances have been made in educational sciences and new approaches have been developed which boost the productivity of education, enable students to learn better, and thus better respond to new social needs.
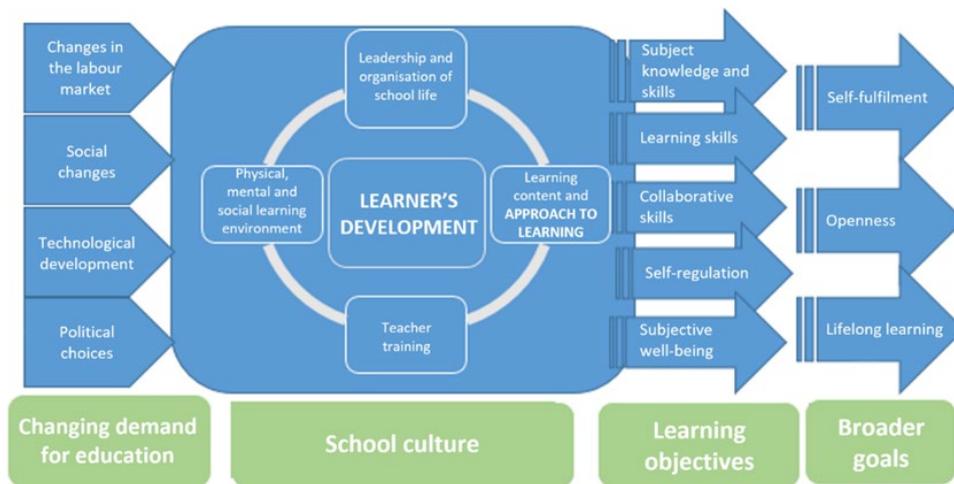

Figure 01. Approach to learning, reasons for changing it, factors supporting changes in school culture, objectives and the broader goals of the changes. Learning Approach (2018)

The education researchers of Tartu University and Tallinn University have proposed a framework for the approach to learning and the changes to be made (see Fig. 1, which is based on the article of Heidmets et al. (2017)) have highlighted five skills or qualities as specific learning objectives: subject knowledge and skills to become an expert in any area of life, learning skills which create opportunities for constant self-improvement, the acquirement of new skills and knowledge, collaborative skills in order to understand and influence the behavior, thinking and emotions of oneself and others in different situations, self-regulation as the readiness and ability to define one's needs and goals, choose well-considered ways for their achievement and to be responsible for one's actions and choices, and subjective well-being (or school enjoyment) which is related to the better physical and mental health of learners, which, in turn, influences how a person generally copes in life. The latter is influenced by how innovative the school is perceived as, how meaningful the study work is, and how learner-centered the teachers' approach to learning is (Rumma, 2017). It has also been found that collaborative learning improves learners' self-esteem and increases school enjoyment (Kohn, 1992; Slavin, 1989).

The effective learning model is reflected in constructivist approach to knowledge, collaborative learning, and autonomy. (OECD, 2010) According to the constructivist approach, learning is individual, active and takes place in a specific context. Learners themselves are active creators of new knowledge and skills, associating their previous personal experience with the new information they receive from the environment, and learning has to take place on the basis of situations that are familiar and significant for the learner (Doruk, 2014). This approach emphasizes the importance of student-centered learning (Kim, 2005).

In such learning environment learning assignments are problem-based and authentic (Keiler, 2018), offering students purposeful activities and opportunities to decide how to approach the assignment and construct new knowledge on the basis of what they know already (Smit et al., 2014). Meaningful and realistic learning assignments that are in accordance with the constructivist approach support students' motivation (Stroet et al., 2016), enhance student activity and help students acquire skills necessary for lifelong learning (Uiboleht et al., 2019).

In collaborative learning, learners learn from each other as much as from teachers or instructors, in order to reach a jointly constructed new meaning (Connolly, 2008; Järvelä et al., 2017). In the collaborative learning environment, each individual's learning is beneficial to all members of the group, provided the students do not compete with each other (De Kock et al., 2004). Designing an effective collaborative learning process requires the development of tasks that actually depend on collaboration for fulfilment; problem solutions that cannot be arrived at independently (Baker, 2015). Uiboleht et al. (2019) also point out that flexible collaborative learning assignments support students' learning, enabling learners to make decisions concerning possible solutions or the selection of the object of their analysis or group members, and enhance student active participation in collaborative learning (Uiboleht et al., 2019).

Autonomy forms a basis for self-regulated learning outside the formal education environment; it supports inner motivation of learners and is related to better learning outcomes as well as subjective well-being (Heidmets et al., 2017). Supporting the autonomy of learners is directly related to the choice of learning content and teaching techniques (UT, 2017). Learners create associations with their previous experience and it is thus important to assess their previous knowledge and skills, as well as their learning skills. Formative assessment plays an important role here.

3. Research Questions

Regardless of the need for changes in education, which would enhance better learning, many teachers adhere to traditional approaches to teaching. The Teaching and Learning International Survey (TALIS) shows that only around half of teachers adopt the practices that involve student cognitive activation (i.e. getting students to evaluate information and apply knowledge in order to solve a problem), despite their high potential leverage on student learning. (OECD, 2019b) According to Doruk's study (2014), this is mostly due to the fact that teachers themselves have been educated by traditional methods and are totally inexperienced in the management of a constructivist classroom. Some other factors hindering the application of new approaches include the physical environment of the school, lack of materials, as well as the feeling that traditional approach is easier and does not require as much work as constructivist approach.

In order to investigate current state of teachers' approaches, the following research questions were posed:

1) Which elements of the contemporary learning paradigm proposed by the education researchers of Tartu University and Tallinn University are implemented?

2) What promotes or inhibits their implementation?

4. Purpose of the Study

The purpose of the present study was to find out about the teachers' teaching philosophies which undeniably influence students' learning, their understanding of their teaching philosophies, and their teaching practices. In addition, the study aimed at identifying the factors which contribute to teachers either accepting or rejecting the new approaches to teaching and learning. Based on the findings the suggestions can be offered to support the teachers' transition from the traditional approach, which may enhance implementation of elements of the contemporary learning paradigm in their teaching.

5. Research Methods

The participants of the study were four English teachers, one Russian and English teacher and one French and English teacher from the Estonian National Defense College (ENDC, now the Estonian Military Academy) and six English teachers from the University of Defence in Brno, the Czech Republic (UoD), the total number of participants being twelve, all of them having teaching experience of more than 10 years. First, interviews were conducted with all participants. The teachers from the ENDC were interviewed in spring 2019 and the teachers from the UoD were interviewed in autumn 2019. Prior to the interviews the purpose of the study, as well as the structure and principles of the interview were introduced to the participants. What is more, all participants were made aware that all data would be used solely for research purposes. The interviews were semi-structured, which enabled the interviewer to ask exactly the same questions and thus make the answers easier to systematize and analyze. The teachers from the ENDC were interviewed orally and the interviews lasted from 22 min to 56 minutes and were conducted by the first author (Aigi Piirimees). In the ENDC, 5 interviews were conducted in Estonian and 1 in English, taking into account the teachers' native language. The interviews with the participants from the UoD (17- 40 minutes long) were administered in English by the third author (Jana Rozsypalkova). The teachers who volunteered for the participation in the research at UoD felt confident to speak about their teaching experience in English, but they were free to use their mother tongue if they needed. The oral interviews were recorded and transcribed verbatim, using the online transcription program worked out by the Department of Cybernetics of Tallinn University of Technology. The automatically transcribed text was later reviewed. In the transcription, non-verbal communication (e.g. pauses for thinking) was omitted, because it was not essential to achieve the purpose of the study.

The questions of the interviews dealt with teaching-related issues, such as preparing lessons, conducting lessons, organizing independent work for students, assessing students' work, and giving feedback. The interviews concentrated on the teachers' descriptions of their teaching practices. These open-ended questions allowed the teachers to talk freely about their teaching. During the oral interviews, the interviewers only on a few occasions explained the questions if something remained unclear.

Subsequently, the questionnaire was administered to all participants. The participants digitally filled them in and sent back to the authors. The questionnaire was worked out on the basis of a research by Postareff and Lindblom-Ylänne (2008) and the work by Jacobs and Toh-Heng (2013) where student-centered learning has been compared to teacher-centered learning. The questionnaire comprised statements about teaching practices which the participants had to mark according to how often they do them, ranging from always to never. In addition, the questionnaire included open-ended questions as for what promotes or inhibits the use of these activities. Prior to administering the questionnaire to the participants, it was validated by two people – language testers who have not been teaching a language recently. Their recommendations on the wording of the statements as well as the order of the statements in the questionnaire were taken into account.

6.   Findings

According to the new approaches to learning, students' needs, expectations and prior knowledge are the starting point when designing teaching. In the planning phase prior to courses, the teachers at the ENDC understand the need of bringing students into the planning process, because as one teacher said, "learning is effective only if students are aware of their need to learn". So, if possible, the teachers bring the students into the planning process. However, oftentimes the teachers do not know what the students' needs and expectations are. Moreover, sometimes the students themselves are not able to articulate their needs and expectations, even if the teachers can access the students prior to the course using modern technology and ask them.

As for students' prior knowledge, the teachers know students' ALCPT (American Language Course Placement Test) scores which, however, give the teachers only a very general idea of the students' language level, since ALCPT, which is extensively used in military institutions to define students' language levels, tests only passive skills (listening and reading) and does not provide the teachers with any knowledge of the students' productive skills (speaking and writing).

Thus, the teachers see as a resort to preparing a very flexible course plan, so that the students can later make suggestions and requests concerning the topics, for example, and the teachers can adjust the level according to the students' real knowledge and skills. Only one teacher said she makes a precise plan and follows the plan to the letter.

Although all Czech teachers agree that it is important to adjust a course plan to the students, they feel rather limited as they have to strictly follow the pre-set obligatory course syllabi which prescribe topics, functions, grammar and often even teaching materials for each teaching unit. In order to enhance students' involvement concerning topics, the teachers dedicate a part of the teaching unit to students' presentations based on the topics of their own interest.

As far as teaching practices are concerned, knowledge is constructed together with students – this is what the new learning paradigm foresees. This, in turn, means that teachers have to be aware of students' different ways of learning and use varying, activating teaching methods in order to enhance students' learning. All teachers at the ENDC and the UoD try to incorporate different teaching methods and a variety of activities for different learners with different learning styles. The majority of the teachers sometimes

select teaching methods that they feel comfortable with, but they also challenge themselves to try new things.

The study revealed that the main factor which inhibits the use of new activating teaching methods is time. As one teacher from the ENDC explained, if the teaching schedule is tight, she just does not have time to learn about new methods to employ them. Yet another teacher pointed out that in addition to time constraints, she feels she needs more practical training on the methods. The Czech teachers do not complain about time deficiency. Yet, most of them would also appreciate practical training to become confident in creating positive learning environment for students. These findings are in accord with the ones in Doruk's (2014) study which found out that teachers feel the new approaches require more work and more practical experience. Moreover, according to TALIS 2018, the practical training does not only positively influence teaching practice, but teachers who report participating in such impactful training also tend to display higher levels of self-efficacy and job satisfaction (OECD, 2019b).

The same applies to implementing technology – the teachers at the ENDC do not feel very comfortable and, quoting a teacher, "it takes a lot of effort to prepare and the technology may not work during the lesson". However, the teachers encourage their students to use various apps and webpages for independent study if the students feel they can benefit from them. Most of the Czech teachers are eager to employ ICT if the classroom equipment allows it. They use a wide range of activities based on ICT and provide electronic student support in LMS Moodle where they share links students can use for further practice. The problems the teachers report are mostly related to the maintenance of the technical equipment in the classrooms. Although all classrooms are usually equipped with a PC connected to the Internet, data projector and audio technology, the teachers are often "discouraged to continue implementation of activities based on ICT due to the poor maintenance service not able to provide appropriate support or repairs when needed." In addition, application software (e.g. players, browsers) of the PC in each classroom varies, "so you have to make sure the installed player supports your format of recording or online activities can be run in the browser provided, which is time-consuming." The positive finding is that Czech teachers seem to be rather confident when it comes to ICT skills, since the lack of teachers' ICT skills has been the most frequent reason why ICT is not implemented in teaching (OECD, 2019b).

The new learning paradigm foresees the development of collaborative skills in students, so that they will be able to cope in the 21st century society. All the language teachers offer students opportunities to do pair and group work, encourage students to express their opinions and be critical, as far as the criticism is constructive, and they sometimes also make use of peer assessment and peer feedback, because they believe students can learn not only from their teacher, but from each other. What is more, the teachers say that they can be language experts, whereas students are the content experts. In this case, the teacher is a facilitator and has an equal and casual but professional relationship with the students. This, in turn, contributes also to the subjective well-being principle which says that well-being at school is linked to good learning outcomes.

As for the language teachers' collaboration with teachers of other subjects, mainly military subjects, for content and language integrated learning, this seems to be problematic. The language teachers have not had much contact with military instructors, though sometimes they have had the chance to consult military experts or invite guests to speak on military topics.

The study revealed that the language teachers implement formative assessment and create conditions for students' development, but they feel they share the responsibility for the students' progress, since the teachers see the students are responsible for their own learning in that the students have to find the answers themselves. This coincides with the principle of self-regulation. Only one teacher at the ENDC said she always assumes responsibility for her students' progress and one teacher at the UoD feels it is her responsibility to make students learn.

7. Conclusion

It can be concluded that the teachers' opinions regarding learning and effective education show traces of the contemporary learning paradigm. However, it was observed that they sometimes tended to implement traditional teacher-centered approaches in their teaching practices. This inconsistency may be related to their previous teacher education and experience. Teachers may be aware of the new approaches but integrating the teaching approach they believe in into their teaching practices may appear a struggle. This implies to the fact that teachers need more encouragement and practical education on the new approaches and new teaching methods. Teachers also need to be allowed time for self-education and improvement. However, teachers also need to take a proactive approach and interest in acquiring new teaching methods and their professional development.

The results also reveal that in implementing the principles of the contemporary learning paradigm teachers have to be allowed professional freedom regarding composing and following course syllabi, choosing appropriate teaching methods and selecting suitable teaching materials. On the one hand, school administration needs to trust teachers and their professionality, on the other hand, it is of utmost importance that school administration shared the understanding of the contemporary learning paradigm and supported teachers in implementing it. However, currently very little is known about school administrators' understanding of what constitutes efficient teaching and learning.

The current study indicates that teachers are in general interested in efficient teaching and doing their work well. They see their role in supporting their students and finding ways of self-improvement. However, it is evident that teaching and learning need to be developed as a whole and in accordance with the rapid changes occurring in the world. In this, teachers need more support from school administration.

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