INNOVATIVE FORMS OF LEARNING AND TEACHING: STUDENTS' PERSPECTIVE

MATEJA VREČIČ, ANITA ZUPANC, MAJA HMELAK
University of Maribor, Faculty of Education, Maribor Slovenia
mateja.vrecic1@guest.arnes.si, anita.zupanc4@guest.arnes.si,
maja.hmelak@um.si

Abstract This article presents innovative forms of learning and teaching that hold great importance in the process of promoting student creativity, which is crucial in the process of an individual's professional development in the modern society. In doing so, particular emphasis was placed on project learning, distance learning and online learning. The empirical part is based on a quantitative research method. The survey questionnaire was completed by 69 students in the field of preschool education. The purpose of the research was to determine to what extent and how students use innovative forms of learning in their studies, and the extent to which professors use innovative forms of teaching. Emphasis was also placed on the satisfaction of students who experienced such working methods. The results show that students rarely use innovative forms of learning but find them important. They also consider the role of the professor in the use of innovative forms of teaching to be important, as well as the professor's creativity in distance work. Based on the findings, additional training and distance learning opportunities with an emphasis on innovation and creativity in teaching can be critically considered, as well as incentives for the use of innovative forms in independent learning.

Keywords:
flipped learning, professional development, project work, online learning, creativity

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1 Introduction

Throughout its existence, the internet has given rise to new activities and changed the implementation of traditional activities. With the advent of e-commerce, e-health, e-shops and the like, the bulk of things have moved to the internet and electronic media (Bregar, 2013). "An important area of application of ICT is education. ICT is changing all types of education (formal, non-formal and informal), not only for the younger generations ('digital generations'), but also for the adult population ('digital immigrants') and opening up to education /…/, with more creativity in learning and acquiring knowledge and with more innovative approaches in adapting educational services /… (ibid., 10.)."

Social interactions are hard to avoid since they take place everywhere. This is particularly impossible in education. Without interaction, teachers would not have to teach, and students would not be able to learn. Social interaction also involves teamwork, as at least two actors are always involved. However, their role in education is constantly changing therefore a lot of adjustment is needed. With the help of technology students can browse through needed information at school and at home. Therefore, the purpose of this paper is to explore what learning methods are being used in this flood of information.

1 Social Interaction and Ways of Learning

1.1 Definition of Social Interaction

Social interaction encompasses the processes that take place between two individuals (verbal and nonverbal communication, relationship building, information exchange, forms of behaviour and actions) (Ule, 2005). It is important in learning, as it can raise the learning potential and strengthen work energy. Whalley (2002) believes that a web of interactions creates a collaborative learning environment, wherein information, knowledge, encouragement, and mutual assistance are transferred between participants.

Cognition is very important in social interaction, as it allows us to exclude from all the information received which is important to us. Social interaction is also important in learning, where three forms of cognition that affect learning can be

distinguished. The first of these is imitation, which is the first step towards social interaction and encompasses, above all, learning by example. This is more accurately described in literature as imitating the behaviour of others. This is followed by experiential learning, which is largely unconscious. At the conscious level, however, we would call this learning through experience. We are only aware of important and recurring stimuli with the help of which we shape our own experiences. We store experiences in memory and recall them when we need them. The last form is constructive learning, which comprises language, consciousness and self-awareness (Tomc, 2008).

Social phenomena are emergent and disjunctive, which is why we cannot observe them. "We can observe only individual actions, while the social phenomenon is an emergence that is formed at the level of the population of diverse actions and can only be accessible to us as an interpretation" (Tomc, 2008, p. 14).

Social interactions are also important in terms of collaborating, growing up and creating your own personality. Through these interactions people can learn a lot and share experiences, which allows us to grow into good, hard-working, responsible individuals, who are capable of teamwork based precisely on these interactions. Interactions also allow us to empathize with others, understand their feelings, and identify with others in any given situation.

Teachers have the opportunity to determine the degree of social interaction through their way of working. They can direct learners to work in pairs, small learning groups or to practise teamwork. They can encourage competition, joint problem solving or helping weaker learners.

1.1.1 Traditional and Modern Ways of Learning

Traditional learning is considered a constructivist approach, wherein students passively accepted knowledge from their environment. There are many theories of learning, but "the latest definitions are based on basic assumptions and define learning as a relatively permanent change in behaviour resulting from individual activity and experience and interaction with content, consideration of experiences /…/, from which a student gains knowledge and basic experience" (Cindrić et al. 2010, p. 62 in Bilič, 2011, p. 201). In our information society, where the time for

acquiring knowledge is getting shorter and more and more information is available on the internet, school practices are also changing. Namely, students come to classes with technological devices (mobile phones, computers). Pensky (2009) points out that there is lesser interest in the traditional way of teaching and more in browsing websites. That is why it is necessary to revive the efficient use of technology, resulting in students working more actively during lessons. Based on the above, Siemens presents a new theory for the needs of students, which he calls connectivism (Bilič, 2011, p. 202). Connectivism "focuses on dynamic, diverse, unlimited sources of knowledge that are constantly responding to change, and an environment that encourages self-activity and the process of lifelong learning" (ibid.).

As with all things, learning with the help of information and communication technology has its advantages and disadvantages. Some of the advantages are diversity (diversity of opinions), independence, interactivity, and openness in terms of an adaptive approach to learning. Students can also express themselves personally (through blogs, vlogs, forums, etc.) and gain new insights with peers abroad. However, there is one major problem, for in this flood of information it is difficult to distinguish correct information and extract its essence (Bilič, 2011, p. 203).

The traditional roles of the learner, teacher, learning technology and learning content have changed with e-learning and require careful planning of the learning environment and process as the teacher steps into the background and the learner interacts with the learning content. Rebolj (2008) believes that we must nevertheless create artificial social elements in order to give students a sense of belonging to a particular group. She mentions certain building blocks that can be placed electronically in the e-environment to create a sense of coexistence in a group: "imitation, transmission of suggestions, establishment of sympathies and antipathies and identification, social pressure, support and also mutual barriers." It is necessary to create social structure in the group with the possibility of mutual influence, which can be achieved through all forms of group work, "tasks that require communication, evaluation of products of others, project lessons, etc." (ibid., 64).

1.1.2 Flipped Classroom and Flipped Learning

"Flipped classroom is one of the newest and most popular learning models that include technology" (Jensen et al., 2014, p. 1). This learning model is redirected first to out-of-class work and then to classroom work. In flipped learning, students and students first look at the material at home and come to class with possible problems and questions. The teacher then leads the debate and provides additional information about the subject. The main purpose of flipped learning is for students to watch pre-prepared videos, recordings of lectures, and other learning content uploaded or provided by the teacher. In the classroom, they also tackle concrete problem solving and mutual interaction, therefore their participation is much more active. According to the constructivist model, learning consists of two phases: the first phase, in which students acquire understanding and knowledge of the content, and the second phase, in which they know how to use and evaluate this acquired knowledge in new situations. In the traditional model of learning, these two phases are facilitated for students, since teachers provide them with the content themselves, and the students' only task is homework. In the flipped model, however, students are responsible for reviewing the content before coming to class, and only then does the teacher's work begin, which facilitates evaluation in new situations. As this is a relatively new model of learning, studies and researchers are not unanimous on whether this is a good working method or not. In any case, the role of students is more active than in the traditional model (Jensen et al., 2014, p. 1–2). Flipped learning is integrated into the teaching method, and therefore success is usually attributed to learning alone. Schwarzzenberg et al. (Eryilmaz & Cigdemoglu, 2018, p. 2) mention "that the success of flipped learning depends to a large extent on providing the conditions for active learning."

In flipped learning, each individual's level of motivation plays an important role, as it helps to achieve the desired goals. Students who are internally motivated are more involved in classroom work and have the autonomy to learn content independently, which they later discuss. Both external and internal motivation play an important role in flipped learning. We have already mentioned the role of internal motivation, while external motivation refers to the desire to be rewarded, to avoid punishment, and is manifested primarily in behaviour. An example of external motivation is student alignment and external reward. Self-control and integrated regulation are reflections of internal motivation (Zainuddin, 2018, p.77).

Active learning is emphasized in all new or newer learning methods, especially in flipped learning.

Figure 1: Representation of active learning

Source: Giorgdze, M., & Dgebuadze, M. (2017). Interactive teaching methods: challenges and perspectives. IJAEDU- International E-Journal of Advances in Education. 544 – 548. https://doi.org/10.18768/ijaedu.370419.

The Figure 1 shows that with the help of active learning we remember up to 70% of what is said and up to 90% of what we say and do. Thus, with the help of active learning and gained experience, we remember much more than with passive learning, which includes sitting and following what the teacher says. In passive learning, we remember only 10% of what is read, 20% of what is heard, 30% of what is seen, and 50% of what is heard and seen.

2.1.3 Online Learning

Owing to the influence of technology, learning in school in the traditional way no longer has the same function as it used to. Technology and social networks are becoming more widespread, leading to the teacher no longer being a transmitter of knowledge, but rather a motivator and guide. More and more students, as well as students in primary and secondary schools, have been using the internet for information.

Namely, social networks contain information that help educators upgrade their careers, as well as information about things that we are interested in. Many teachers thus use participatory social media, also called personal learning networks. These

networks involve a system of impersonal connectivity and research for the needs of information learning, ideas and information exchange. These are mainly educational blogs, wikis, and podcasts, including Twitter, Edmodo and Facebook (Viser et al., 2014, p. 397).

Dewey (1938) describes interaction as an integral part of the educational process that occurs when a student converts the information provided to them. The interaction between human and non-human actors explored by Dewey was upgraded by Laurillard (2000), who argued that university education should go beyond access to information and include collaboration with others (teachers, students, content) to help personal understanding (Anderson, 2003, p. 130–131).

Facebook and Twitter are social platforms where users can ask for interests on the wall (board) and get an answer from others. "These platforms provide knowledge building and sharing where teachers can find support in large groups that bring together answers to find the best solution" (Trust, 2014, p. 133–134).

In Slovenia, there are several thousand members in teacher groups on Facebook, e.g.:

Teachers to teachers (5,600 members): The group is intended for teachers and for those who teach to share materials, experiences, opinions, and advice.

Young teacher (6,400 members): It covers the fields of education, state exam (questions, materials, commissions, etc.), traineeships, regulations, teaching preparations, salaries, promotions, etc.

Slovenian teachers (3,600 members): The group is intended for the exchange of opinions and information for all those who teach in Slovenia and for teachers of Slovenian communities abroad.

Classroom teachers (9,900 members): A group for primary level teachers and students studying primary education.

These and many others empower (e.g., students of education, novice teachers and those with many years of practice), inspire, help to find innovative forms of work, concrete examples from practice and give the opportunity to interact with colleagues from all over the country.

2.1.4 Project Learning

Project learning is defined by Thomas (2000) as a model that organizes learning through project work. He lists the following five main features of project-based learning that have positive effects on participants (Gülbahar & Tinmaz, 2014, p. 310):

- Project-based learning is of central importance, and it does not stem from the curriculum.
- Projects based on project learning focus on issues and problems that lead students to think about core concepts and principles.
- They encourage students to think constructively.
- Project-based learning depends largely on the students.

Projects are realistic and not just school-based Heckendorn (2002) also explained that projects based on project-based learning require much more work, a longer time to complete, and are complex in nature. Project learning focuses on the final product and the experience we gain during the process itself. The main task of the teacher is to offer a good choice of topics, and the projects themselves are the responsibility of the students, as well as the division of tasks. Therefore, project work is important both on a personal and on a group level (Gülbahar & Tinmaz, 2014, p. 311). There are several phases in project work and learning, which must be completed within a certain time frame. In the first phase, planning and organising work is important, and it is crucial for the student's success. In the initial phase, the teachers or professors are also important because they help students with additional questions to organize. To find a suitable procedure for their project work, they advise brainstorming or the "de Bono" technique (6 hats), with the help of which they come up with a suitable solution for a given problem. Finally, the target audience, which includes peers as well as parents and the principal, is also important, depending on the topic of the project. During the project work itself, students learn responsibility, independence and discipline. They also learn how to make an

organizational plan, what steps to implement, how to strengthen mutual communication and mutual self-esteem, and how to learn teamwork. However, consultations are important for the teacher, as they offer an insight into the work itself, and the teacher can then offer help and check whether the student's way of working is good (Bell, 2010, p. 40–42).

Project-based learning contains an integrative view of motivation and leads to new student interests in projects. Through asking and raising questions, discussing ideas and focusing on the problem, it allows students greater and regular interest and concentration. There are two ways of proceeding in project work: first, the use of questions, and second, the use of an issue to serve as a guided activity and which causes a series of effects that leads to the final product. Students are both responsible for creating the problem as well as the treatment and the product itself. In no case, however, can the question be so limited that the results are known in advance (Blumenfeld et al., 2011, p. 371–372).

2.2 Teachers' Creativity and Their Role

In the age of growing information technology on demand, the need for a new way of learning is even greater. Some teachers are already embarking on using new teaching methods and connecting to professional learning networks (PLN) (Trust, 2014, p. 133). PLN is a system that interconnects and supports non-formal learning. It allows teachers to focus on global support networks that prevent isolation and promote independence. There are two types of PLN, namely data aggregation and social media connections (ibid.). Through this, they can also connect with other teachers around the world, providing support, help, sharing advice, feedback and collaborative opportunities. PLN allows teachers not only to do the above, but also to gather information on various websites and organize browsing, so they are always up to date with the latest learning and teaching techniques. The most popular PLN sites are Edmondo, Classroom 2.0 and The Educator's. These provide an analysis of how teachers use PLN for learning and communication (ibid.). Classroom 2.0 and The Educator's are very similar sites that allow chat features, blogs, and own posts. Both have a main forum for discussion. They also include forums for individual interest groups. Edmondo is the most widespread of the three. It contains easy and transparent page navigation, each member can join a study group, and the latest posts are visible immediately so there is no need to browse for new posts. Edmondo

is not an oversized browser but has a page of 12 themed communities where members share information and resources, as well as get feedback on the same subject (Trust, 2014, p. 136).

2.1.1 The Role of Teachers

The roles and responsibilities of teachers are constantly changing. Above all, they are determined by curricula, knowledge standards, rules, student diversity and new technology. In all of this, however, teachers have too few learning opportunities and flexibility in learning and working in a period of rising technology. Many teachers do not believe that professional development can help them with the changing work in the workplace. Due to the large volume of work, teachers themselves began the search for learning opportunities. Teachers use information and communication technology to educate themselves informally. In doing so, they learn from others, engage in collaboration, experiment, seek information, and engage in activities outside of school. In non-formal education, teachers are more independent and focus on the topics that interest and benefit them in their work. Teachers have long been the main source of knowledge, but this area has been replaced by information technology, so the way of working, teaching and learning has changed (Trust & Horrock, 2016, p. 4). It requires teachers to have ICT skills, which can come as an incentive from the management, who plans the acquisition of e-competences in an organized manner. At the same time, teachers themselves are responsible for the development of these competencies, which can be acquired by participating in various free online tutorials, webinars, mass online Arnes (and other) courses, courses at the National Education Institute of the Republic of Slovenia for professionals, members in various online communities, etc. (Zavašnik et al., 2021, p. 4).

2.1.2 The Professional Development of Teachers

The professional development of professors is just as important as the professional development of other staff (educators and teachers). Professional development itself combines a personal point of view with development that professors acquire through their studies and through experience while working at the institution (Hmelak, 2018, p. 91).

Many principles are important for professional development, which many authors have defined in more detail for educators and teachers, and these can also be generalized to the professional development of professors. Vonta (2005) describes ten basic conditions for professional development. He highlights the very beginning of professional development, which begins with education and professional training and continues with individualization and differentiation of approaches based on the diversity of approaches to professional development. He further emphasizes the importance of the individual reflecting on their practice and work, and of analysing the implications of certain approaches. It is also very important to work with a team, which offers shared experiences and more successful self-evaluation and awareness of strengths and weaknesses. Teamwork is extremely important in professional development, as professors do not work alone, but together with an assistant. This also reflects cultural collegiality expressed through common goals, sharing responsibility for success and continuous improvement (Hmelak, 2018, p. 48-50).

"Professional development takes place gradually and goes through several stages, the first is definitely the decision for a particular profession" (Hmelak, 2018, p. 50).

Professional development is not only reflected in the delivery of material, but also through personal motivation and ambition, which is visible in the number of publications of articles and other work. A professor who is constantly developing their professional development not only improves their acquired knowledge, but also acquires new knowledge that they can include in their subject.

Electronic portfolios are increasingly being used as a tool for showcasing development, since "it enables transparency of process continuity (e.g., learning, personal professional development, quality assurance) and results. It is proven to promote the development of competencies, reflection and improvement of their own work, teamwork, work in an interdisciplinary team and participation in professional communities" (Istenič Starčič, 2007, p. 78).

3 Empirical Part

3.1 Purpose of the study

The purpose of the study was to determine the extent to which and how students use innovative forms of learning in their studies, and the extent to which professors use innovative forms of teaching. The students' satisfaction with this way of working was also of interest.

3.2 Research Methods

The article is based on theoretical starting points, focusing on the impact of information technology on teaching, new approaches to learning, and the role of the teacher and their creation in the flood of technology.

In the empirical part, a quantitative research method was used. A structured questionnaire was distributed among students of Preschool Pedagogy at the Faculty of Education at all three universities in Slovenia.

There were a few issues with data collection. Of the 151 people who clicked on the survey, only 69 people completed it. The reason could be possible technical issues, the short time of the survey questionnaire and remote work, and students possibly not responding to our request.

The sincerity of the answers could be another possible issue.

4 Results and Interpretation

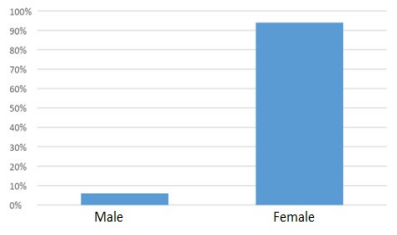

Figure 2: Number of participants by gender

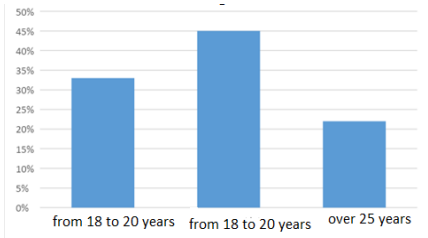

Figure 3: Age of participants

As stated above, 69 people completed the questionnaire. Of these, four were men, representing 6%, and 65 women, representing 94% of all respondents, as can be seen in Figure 2.

Figure 3 shows that most respondents were aged between 21 and 25, as many as 45%. The lowest number of participants was over 25 years of age, 22%, which was to be expected, as the survey was conducted by students.

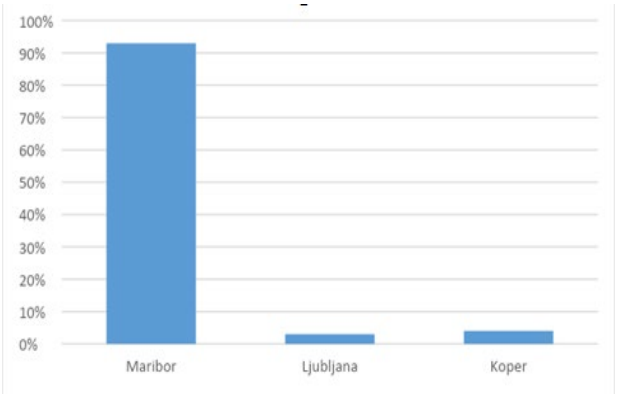

Figure 4: Place of study

When asked which university they attended, the majority of respondents indicated Maribor, as many as 93%. Thus, the results are only relevant for the Faculty of Education in Maribor. The least indicated Ljubljana, as can be seen in Figure 4.

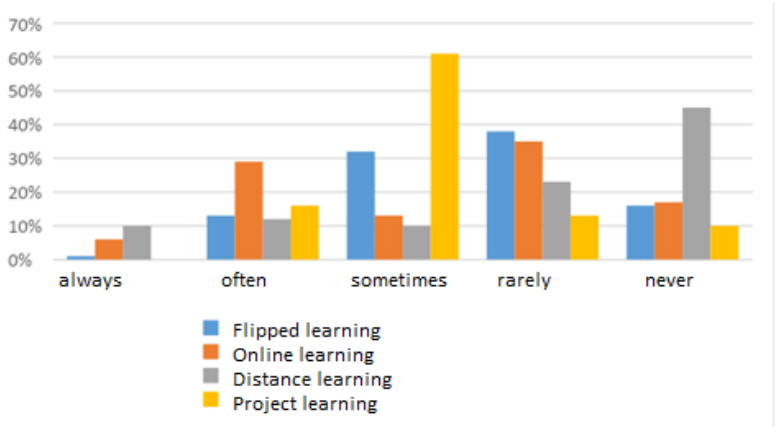

Figure 5: Using innovative methods in one's own work (before COVID-19)

The students said that they sometimes used project-based learning (61%) in their work, while they never used distance learning before the pandemic (45%) (see Figure 5). Online learning was used often by 29, while flipped learning was rarely used (38%).

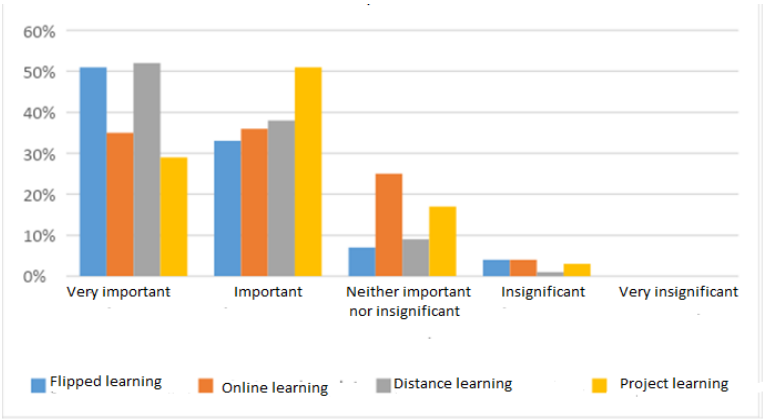

Figure 6:The importance of the role of the professor

As can be seen in Figure 6, students found the role of the professor very important in flipped learning (51%) and distance learning (52%), while the role of the professor was less important in online learning (36%) and project learning (51%).

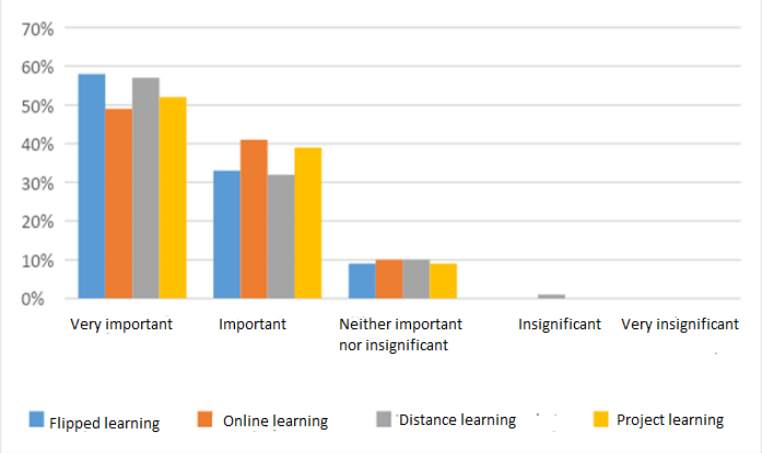

Figure 7: The importance of active student participation

The students considered active participation to be very important in all innovative forms of work: 58% for flipped learning, 49% for online learning, 57% for distance learning, and 52% for project-based learning (Figure 7). The latter confirms the above-mentioned theory of connectivism (Bilič, 2011, p. 202).

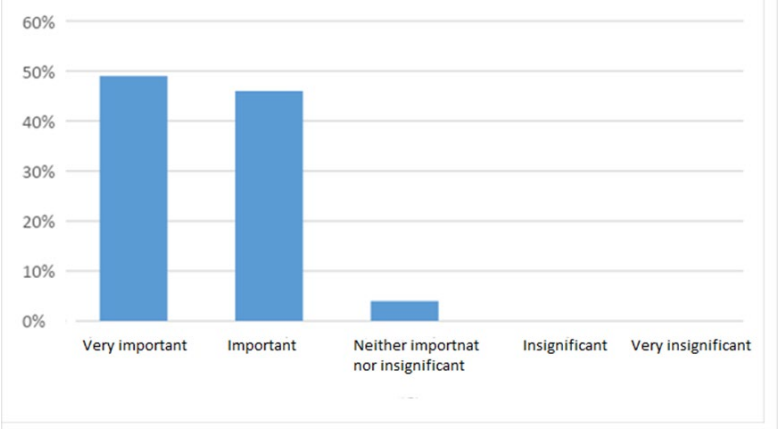

Figure 8:. The importance of the creativity of the professor

The students rated the professor's creativity as very important (49%) and important (46%). Of the respondents, 4% were undecided (see Figure 8). The high percentage confirms the fact that the creativity of professors is important and desirable, which is also reflected in their integration into professional learning networks (PLN) (Trust, 2014, p. 133).

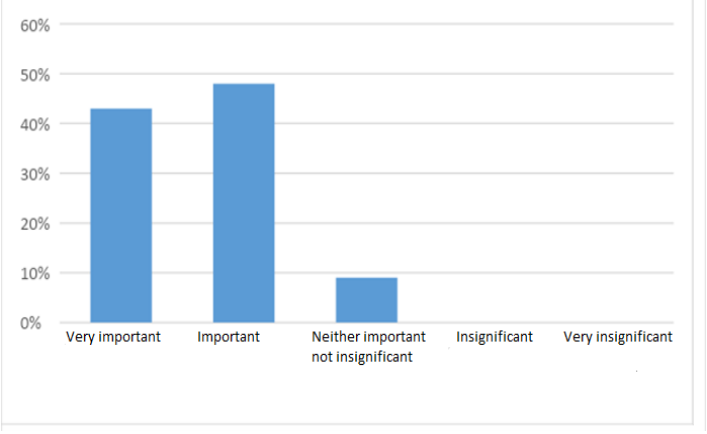

Figure 9: Education of professors in the field of ICT for their own professional development

The students believed that the professor's education in the field of ICT was important for their professional development. As many as 48% of students were of this opinion, while 43% of students thought it very important. Of the students, 9% defined the importance of ICT education as neither important nor insignificant (Figure 9).

The use of information and communication technology (ICT) in learning and teaching increases access to information and has a significant impact on the development of teaching. At the same time, it allows individuals and communities to communicate whenever they want. Lack of ICT equipment can be one of the barriers that affect the accessibility and use of it at work. The professional knowledge of professors, their persuasions, and the skills they use in their work, in addition to the use of ICT, are important for professional work and development (Charalambos & Glass, 2007, p. 87).

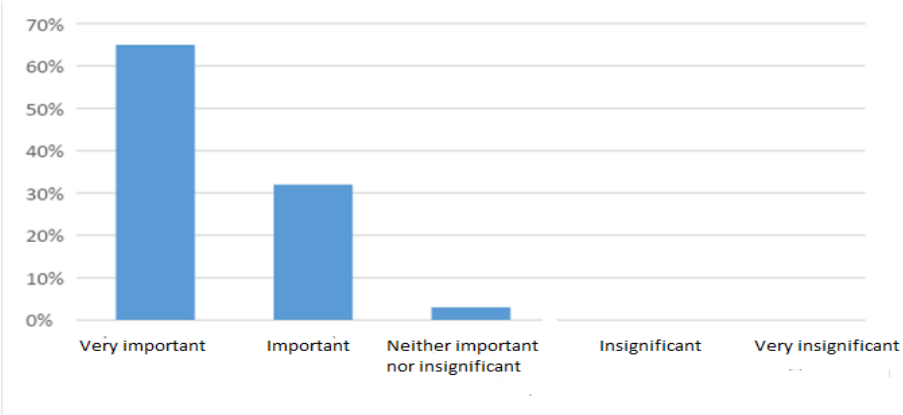

Figure 10: Professors' professional development and satisfaction with the profession

The students believed that the professors' satisfaction with their profession was important for their professional development (Figure 10). While more than half of the students found this very important (6%), just under a third found professors' professional development and job satisfaction important (32%). Of the students, 3% were undecided about the importance.

Živković (2013) states similar results; namely that professors themselves see professional development as important, especially for their career advancement and pedagogical work (Živković, 2013, p.150).

5 Conclusion

In this review article, some possible methods for conducting lessons and lectures have been mentioned, in which students participate more actively, thus remembering more contents. By being actively involved in their work and engaging in various project- and team- work, students gain communication skills, expand their research areas and knowledge, are much more confident and show more self-initiative in their work. Distance learning with pre-prepared lectures and the use of various platforms is interesting mainly because students engage with the lectures when they have time, they can watch them several times and they arrive prepared for the lesson. Following this, the teacher can upgrade the knowledge the students have already gained, lead discussions or prepare other interesting topics related to the topic. This requires great work ethic and motivation of the teachers to explore new methods of learning and teaching. In the future, more research should be devoted to this topic, as the influence of media and technology is growing, and the learning system will have to adapt accordingly. Much has been written about practicing learning through movement, but there is very little (Slovenian) research on the purpose of distance learning, on the preparation of pre-prepared lectures, and on the use of Twitter or Facebook as a learning tool. Recently, the most important topics are flipped learning and flipped classroom, which however have not yet entered the educational system in many countries. Flipped learning, as well as project- and team- work and distance learning, strengthen social interactions that are not as personal as face-to-face contact but can still work well together. It would be interesting to delve into this topic, as we believe that we would discover a myriad of methods that are much more functional, more interesting, and that attract the attention of young people to remember sooner and know how to interconnect things.

Numerous studies show that online learning can be very successful in connection with the traditional way of teaching. The biggest hurdle in online learning is the time it takes to complete modules through online learning, while also pointing out the importance of monitoring which factors lead to success through online learning (Smart & Cappel, 2006, p. 201).

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