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**LOOKING AT THE FUTURE: EXPLORING STUDENT
TEACHERS' PERSPECTIVE ON EDUCATION**

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Abstract

A complex and uncertain world is ahead of us. This study is focused on discovering a vision of the future: the vision of today's undergraduates, who are preparing to become teachers for primary and secondary education level, regarding the future of education. The study involved 87 university students in the second year of study, enrolled in two teacher training study programs. In order to collect the student teachers' view on the future of education, a questionnaire with open-ended questions was designed and applied. The research questions were: What do future teachers think education and schools will look like in 2030?; Which aspects are considered by student teachers when they think about education in the future? Based on the ideas expressed, the student teachers' reflections were grouped into four categories: optimistic, pessimistic, mixed, and neutral views. With the content analysis technique these views are analysed and examples are offered. Over 50% of the student teachers' views have been classified as optimistic, reflecting positive visions towards the school in 2030. The respondents cited a variety of themes, such as: technology in education, teachers' and learners' roles and relationships, curriculum, students' competencies, school environment, student assessment, diversity and inclusion, parent involvement and partnership in education. In the pessimistic and mixed (partly) views, negative aspects perceived by the respondents were reflected, such as: students' behavioural problems and poor performance, teacher resistance, inertia of the educational system, insufficient funds for the needs of the schools, decreased attractiveness of the teaching profession, the phenomenon of migration.

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1. Introduction

We live in an increasingly dynamic, globalized world with a fast pace of technological development and complex challenges in all areas of activity. A complex and uncertain future is ahead of us, but we need to be ready for it. The schools and the teachers are expected to prepare students for the requirements of this world, to develop the knowledge, the skills and attitudes of their students, which will help them to face unprecedented challenges in the future and to meet new opportunities and choices. It is possible that the children entering primary school today will have jobs that do not yet exist. This idea was also underlined in the project The Future of Education and Skills 2030, which was launched by the Organization for Economic Co-operation and Development: “schools can prepare them for jobs that have not yet been created, for technologies that have not yet been invented, to solve problems that have not yet been anticipated” (Organisation for Economic Co-operation and Development, 2018, p.2). To address this situation, in White paper on the future of the Europe is pointed out that “making the most of the new opportunities whilst mitigating any negative impact will require a massive investment in skills and a major rethink of education and lifelong learning systems” (European Commission, 2017, p.10).

Regarding the skills that young people will need in order to live in a complex and uncertain world, OECD (2018) underlines the “need for a broad set of knowledge, skills, attitudes and values in action” (p. 4), such as: disciplinary knowledge, interdisciplinary, epistemic and procedural knowledge, cognitive and meta-cognitive skills (critical thinking, creative thinking, learning to learn, and self-regulation), social and emotional skills (empathy, self-efficacy and collaboration), physical skills (using new information and communication technology devices), motivation, trust, respect for diversity and virtue. Within the same project, they were also identified “transformative competencies”, such as: creating new value, reconciling tensions and dilemmas and taking responsibility; these address the growing need for young people to be innovative, responsible and aware (OECD, 2018).

In order to facilitate the best start for the future of children, the teachers must be of a high quality. These teachers themselves need to develop diverse competencies to meet the challenges of an increasingly demanding teaching profession. Convinced that education beliefs and expectations may influence professional choices and practices, we focused on discovering a vision of the future: the vision of today’s undergraduates, who are preparing to become teachers for preschool, primary and secondary education level, regarding the future of education.

2. Problem Statement

Recruiting, training and rewarding high quality teachers is not an easy thing in Romania considering that the requirements in the educational system are getting higher and the financial investment in the domain is insufficient (under the European average). These are factors that diminish the attractiveness of the teaching profession for young people. Having some measures to motivate and support them in order to excel in this demanding job is imperiously necessary. Being trained for their future profession using the tools of the present, future teachers need to handle more and more complex challenges in the schools of the future. How these future schools will look like and how they will adapt to the new reality affected by the fast-paced changes in all domains are questions worth considering for the education researchers, policy makers but also the education stakeholders.

An interesting initiative in this direction is the Future Classroom Lab (FCL), created in 2012 by European Schoolnet. Future Classroom Lab is an inspirational learning environment in Brussels, based on the rethinking of the role of pedagogy, technology and design in classrooms, in order to support 21st century teaching and learning (<http://fcl.eun.org/>). The Future Classroom Lab has six different learning spaces (Investigate, Create, Present, Interact, Exchange, Develop) and “each space highlights specific areas of learning and teaching and helps to rethink different points: physical space, resources, changing roles of student and teacher, and how to support different learning styles” (European Schoolnet, 2016, p.2).

Surely, we can't expect to have one project to save us from all the difficulties of future school, instead its a step forward in acknowledging the need for change, the possibility to develop and experiment with educational practices from more perspectives and in more directions, fuelled by the idea of preparing the future. It's not known how the work market or the civilization and culture of the world will look like when children now in kindergarten will graduate university (Senge et al., 2016). A similar opinion is expressed by another author who argues that “while we cannot know today what the future of teaching will look like, there is increasing acceptance that the education system is facing transformative changes and that teachers' roles will need to change accordingly” (Prince, 2014, p.9). Another expert, the founder and chairman of the International Center for Leadership in Education, considers that: “Our schools must mirror the ever-changing world we live in so that they can prepare our students to navigate continuous change. They must reflect our technology-driven world so they are relevant and engaging to today's digital native students” (Daggett, 2017, p.2).

We believe that the challenges of the 21st century provide a good context for investigating the student teachers' opinions about the education in the future. What they think and what they feel about the future of education is an aspect that should not be neglected, but instead capitalized in the initial training program for the teaching profession in terms of providing possible directions for designing a future-focused education system. The future teachers are expected to face unprecedented challenges, but they will also be offered new opportunities for professional developmental. The course of change can't be stopped, nor it is desirable to do so. Other authors showed concern for the future-teachers opinions on education in the year 2030. For example, the goal of a study in Romania was to discover the students' views on the four developed scenarios (in whose design migration and consumerism were considered) for chemistry teacher training and practice in Romania in 2030 (Timofte & Cozma, 2017). More than half of the participants selected the most optimistic scenario (named Prosperity), in which both consumerism and migration levels were low.

3. Research Questions

Two research questions guided this study: What do student teachers think education and schools will look like in 2030?; Which aspects do student teachers consider when they think about education in the future?

4. Purpose of the Study

The purpose of this study was to explore the student teachers' visions on the future of education as schools, more specifically about education in the year 2030. A number of N=87 university students in their second year of study, at a university in Romania, participated in this study: 73 female (83.90 %) and 14

male (16.09 %). 42 participants were enrolled in a pre-school and primary education teacher training study program and 45 in a secondary education teacher training program in the 2017-2018 academic year. The participants were invited and challenged to take a step forward, imagine and write about how education will look like at the end of the third decade of the 21st century.

5. Research Methods

In order to collect the student teachers' visions on the future of education, a questionnaire with open-ended questions was designed and applied. The data collection tool was designed in two sections: personal details (age, gender, teacher training program) and views. All participants were informed that the survey was anonymous. They were informed about the purpose of the research and its voluntary basis. Respondents were encouraged to express their personal opinions openly. Some of the questionnaires were completed by the participants at a scientific conference for students, and another part was completed at the end of one seminar class. The research took place in March 2018.

6. Findings

First we were interested to find out how the student teachers think that education and schools will look like in 2030. Their written reflections were analysed based on a qualitative content analysis. We have taken the following steps: reading the answers several times, identifying the main categories based on the ideas expressed, dividing the categories into subcategories and then interpreting them.

Student teachers' reflections were grouped, based on the ideas expressed, into four categories: optimistic, pessimistic, mixed, and neutral views. The optimist answers were those in which students showed confidence in the future of education, observing the good side of things and those that considered progress in education as desirable and possible. Classified as pessimist answers were those in which students focused on the negative aspects of formal education in the future. The mixed reflections contained both positive and negative aspects regarding the same or different themes. There was also a neutral category, in which the students' answers couldn't be classified as optimist or pessimist, expressing a reserved, passive attitude. The frequency of these four categories is displayed in Table 1.

Table 01. Student teachers' views on education in 2030

Categories	Frequency	Percentages
Optimist	46	52.87%
Mixed	21	24.13%
Pessimist	11	12.64%
Neutral	9	10.34%
Total	87	100%

Over 50% of the student teachers' views have been classified as optimistic, reflecting positive visions towards the school in 2030. The greater number of optimistic views allowed us to make a more detailed analysis of their content compared to the other three categories. The respondents cited a variety of themes (which were called sub-categories). The analysis of optimistic views revealed eight major sub-categories, such as: technology in education, teachers' and learners' roles and relationships, curriculum, students' competencies, school environment, student assessment, diversity and inclusion, parent

involvement and partnership in education. The Table 2 shows their frequencies in student teachers' optimistic reflections.

Table 02. Optimistic student teachers' views on education in 2030

Sub-categories	Frequency	Percentages
Technology	76	38.38%
Teachers and learners- roles and relationship	27	13.63%
School environment	23	11.61%
Curriculum	21	10.60%
Students' competencies	16	8.08%
Student assessment	15	7.57%
Diversity, inclusion and equity	11	5.55%
Parent involvement and Partnership in education	9	4.54%
Total	198	100%

Many of the student teachers' comments reflected more themes and in these cases we counted them multiple times in the corresponding sub-categories. Next, these sub-categories are commented and exemplified by the voice of student teachers (ST) and, for that, some examples were extracted from their questionnaires.

Technology: the student teachers perceived it as the most impacting factor on the future of education. Over a third (38.38%) of the answers referred to the technology and its products, which were seen as ways to connect the school environment to the outside world and to innovate the teaching and learning process.

"Tablets, laptops, smart phones, smart boards, interactive desks and the usage of on- line resources, cloud storage will become the main tools for teachers and students and will modernize education." (ST 14);

"I believe the most important aspect of future education will be the virtual reality element, allowing for experimenting a digital reality. Being able to explore places where you wouldn't otherwise reach in the real world (for example the depths of the oceans, the cosmos or any place on the globe) will be extremely interesting for the students and teachers alike." (ST 65)

Teachers' and learners' roles and relationships: the respondents invoked the necessity to rethink the the roles of teachers and pupils from the perspective of active and interactive pedagogy, and the **relationship between them** was seen as an important way to support learning and optimal emotional states.

"I hope teachers will become true guides and mentors in the learning process for the students. They will suggest a variety of documentation and support pupils in learning." (ST 23);

"Students will be more active and involved in their learning process." (ST 34);

"Teachers and students will cooperate more for progress in knowledge and a mutual well-being." (ST 3)

School environment: the physical environment of the school has also been perceived by student teachers as being in need of an upgrade. They spoke of modern spaces with latest generation technology where students may learn with joy and feel good.

"Schools will be friendlier for their students, better taken-care of, more joyful and colorful, using modular furniture, workstations to improve student cooperation, but also having relaxation areas." (ST 14);

"Schools will have resources for teaching that are better adapted to the world we live in." (ST 28)

Curriculum: changes in the curriculum (as characteristics, organization or delivery) were seen by student teachers as important areas for change in education in the future.

"There will be more applied content that's more relevant to the pupil's everyday life." (ST 22);

"The interdisciplinary approach will gain ground in schools and that's a positive thing." (ST 8);

"Because the needs of students and their learning styles are so different, there will be solutions for a more flexible curriculum, tailored to individual needs." (ST 73)

"On-line content will become dominant and improve the teaching and learning methods." (ST 59)

Students' competencies: Future teachers' answers underlined the enhancement of relevant competencies for the 21st century.

"I hope there will be an increased focus on developing the students' digital competencies, communication ability, critical thinking and creativity." (ST 45);

"The necessary skills for the future world such as: group work, entrepreneurial spirit, problem solving skills- these will be better represented in the schools of the future." (ST 34);

"Students will develop lifelong learning skills- essential in a world with accelerating rhythms of change." (ST 73)

Student assessment: desirable changes have been identified in terms of student assessment (flexibility, confidentiality, emphasis on high-level cognitive abilities).

"There will probably be flexible assignments and online posting of grades, which is benefiting pupils and their parents (they can avoid public hierarchies and student comparisons)." (ST 61);

"Assessment will focus more on evaluating the pupils' ability to solve problems and find solutions to challenges." (ST 52).

Diversity, inclusion and equity: the possibility of generating as many as possible instructional practices that support inclusion and reduce inequalities in the field of education was also encountered in the student teachers' views:

"I trust schools and teachers will become more open to integration practices for special needs children in regular classes. Diversity will be norm in the classes of the future." (ST 36);

"I think there will be more measures to diminish the opportunity difference between children from rural and urban areas in relation to education." (ST 7).

Parent involvement and partnership in education were perceived to become more active, respectively more numerous.

"Parents will have more decision power about schools and their programs. They will be more involved in school and student life and will communicate more via social media platforms." (ST 11);

"There will be more partnerships and international projects in schools that will allow teachers and students more mobility; this might bring a breath of freshness in the system." (ST 34)

Beyond the optimism of these comments and the confidence that things will change for the better in the field of education, the diversity of themes referred to by the student teachers express a mature understanding of the fact that progress in education feeds from diverse but complementary areas, such as human resources (teachers, parents, stakeholders), material resources (equipment, technologies), teaching and learning practices, curriculum and educational policies etc.

Out of the total views expressed by student teachers, 24.13% have been classified as **mixed**. In these the positive aspects have coexisted with the pessimistic ones in the respondents' comments.

Some subcategories have been identified that are similar to those in the optimistic views (technology, students' competencies, teachers' and learners' roles and relationships, school environment and curriculum), but also some new ones, such as: school management and educational policy. These have been related to different negative aspects the respondents perceived, such as: students' behavior problems, students' poor performance, teacher resistance, stress management. To give some examples, we present such combinations of comments, from the same questionnaire.

Technology versus students' competencies

"The new technologies come in support of education. Future schools will be more endowed with devices that will help students learn more easily... we could lose important things such as: handwriting, book reading, face to face communication, the contact with nature." (ST 6)

Technology versus teachers' and learners' roles and relationships

"In my vision technology will modernize teaching and learning, but I'm afraid the relation between teachers and students will lose depth and quality. I hope technology will be only an instrument for the teachers instead of their replacement." (ST 82)

School management versus students' behavior problems

"Headmasters, teachers and parents will be better prepared to handle the school's problems working together, because the students' behavior problems will increase." (ST 37)

Measures for a quality education versus students' poor performance

"Despite the measures meant to increase the quality level of education there will still be marginalized schools with poor student results." (ST 15)

Changes versus teacher resistance

"Changes will have an increased rhythm in the near future in regard to modernizing education, but I don't think all teachers can or want to keep up with these changes. They will probably prefer traditional working methods that won't be to pupils' liking." (ST 41).

These views, which we have called mixed, express a prudent attitude towards the possible changes in education in the future. Not only the advantages, but also the limits, the consequences of possible changes are highlighted.

From 87 views, 11 were classified as **pessimistic**, representing 12.64% of the total. These views reflect the respondents' miss-trust regarding the possibility of progress, of evolution in education. Here are some quotes extracted from these views:

"Changes in education happen very slowly, that's why I think radical changes won't be seen in education, not even by 2030." (ST 17);

"The migration of young families with their children will affect the education system as the school population will decrease both in quantity and, I believe, quality. We are losing human resources that are important for the country." (ST 63);

"I believe the future might bring a total lack of professional teachers. The teaching profession has lost its appeal for many of us, young people. We can expect an increase in non-qualified personnel in schools." (ST 56);

"I'm afraid that we'll face generations of device-dependent children, with no interest in learning, alienated, aggressive, unable to communicate with others. Teachers' skills will face a hard trial." (ST 29)

The educational system inertia, the risk that the education system will not keep up with the changes in social life, insufficient funds for the needs of the schools, the growing diversity of pupils and their needs, the decrease in attractiveness of the didactic profession, the migration phenomenon were the aspects frequently mentioned by the student teacher respondents. In their opinion these problems will affect the future of school in Romanian society.

Finally, there was the category of **neutral views** (10.34% of the total), which contained comments where situations were reported but with no personal implication from the authors. Here are some quotes from this category:

"Schools will be partially frequented by students and education will most likely move at home (homeschooling), museums and libraries, in nature, in production units." (ST 78);

"Teacher training will continue to be a collaboration between universities and schools." (ST 46)

These comments were fewer in number and have particularly focused on teacher education, the relationship between formal education and other forms of education.

The student teachers' experience in the educational system as former students in schools and currently university students, their growing pedagogic culture, the economic and social factors of the environment in which they live, even their personality traits or particularities of their anticipatory thinking can be factors that explain the diversity of expressed opinions on the theme.

7. Conclusion

The investigation has allowed us to discover the views of student teachers about the future of school and education, and the criteria activated when thinking about the future of education. The views of future teachers on education were diverse and were categorized into four categories: optimistic, pessimistic, mixed and neutral. The larger number of optimistic opinions (over 50% of the total) enabled us to analyse their content, so that major eight themes (subcategories) were identified in these responses. The optimistic scenarios about the education of the future were accompanied by others: mixed, neutral or pessimistic- the latest being fuelled by the social and economic factors and the environment in which the respondents live, or by the internal problems of the educational system. Examples of pessimistic, mixed and neutral views were also offered.

Even if we can't be sure of how the future of education will look like in Romania, a trip in the future at an imaginative level can be useful in order to identify the future teachers' attitudes in this regard. Their professional choices, their expectations and professional practices are linked to the way they think about education in the future. Living in present time, but looking in the future, these undergraduates are preparing to become part of a new generation of teachers, for new generations of students. They will be part of the future and they will have the chance to influence students, schools and parents for the better and to leave a positive mark on the world of tomorrow's education. They have the chance to be the agents of change in creating the future, as one of the participants very well concluded in her comment: "The school of the future depends on us."

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