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The conference has a double-blind peer-review process.

Any paper submitted for the conference is reviewed by at least two international reviewers with expertise in the relevant subject area. Based on the reviewers' comments, papers are accepted, rejected or accepted with revision. If the comments are not addressed well in the improved paper, then the paper is sent back to the authors to make further revisions. The accepted papers are formatted by the conference for publication in the proceedings.

Aims & Scope

Traditionally, it is seen that change and transformation in the field of social sciences takes a little more time compared to fields such as health, technology and engineering. However, this situation seems to have started to change with the Covid-19 epidemic disease. It is expected that changes will occur in human and social behavior during and after the Covid 19 epidemic disease. These changes have started to show themselves in many fields related to social sciences, especially education, psychology, sociology and economy. For this reason, this conference focused on the changes and innovations in the field of social sciences that started with Covid 19. However, the organizing committee also recognizes the value of traditional knowledge in the social sciences. For this reason, the conference is also open to traditional studies in the field of social sciences.

The aim of the conference is to bring together researchers and administrators from different countries, and to discuss theoretical and practical issues in all fields of social sciences. At the same time, it is aimed to enable the conference participants to share the changes and developments in the field of social sciences with their colleagues.

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ICRESS 2022: International Conference on Research in Education and Social Sciences

Analysis of Studies on Coding Education: A Meta Synthesis Study

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Abstract: In this research, 39 studies carried out between 2015 and 2021 were examined by metasynthesis method. In this context, current trends in published research on coding education in Turkey have been tried to be determined. Studies on coding education in Turkey were examined according to the years they were published, the subject and application areas of the studies, research methods, study groups, data collection tools, data analysis techniques, results and suggestions. In order to examine the publications included in the research, a data collection form was developed by the researchers and analyzed within the framework of the determined categories. As a result of the findings, it was seen that more studies were carried out on coding education in 2019-2020, studies were carried out to determine opinions on robotics and coding education, studies were carried out in the field of educational science, case study and experimental design were preferred, mostly secondary school students were preferred as the study group, and the data were collected mostly by interview technique. It has been revealed that content analysis is frequently used in analysis. When the studies examined, it was seen that mostly results were obtained to explain the current situation and suggestions for applications were included. In line with the results of the research, longitudinal or experimental studies can be made for coding education.

Keywords: Coding education, Robotic coding, Metasynthesis

Introduction

With the 21st century, different skills come to the fore in education programs. Critical thinking, problem solving, communication, collaboration, information and technology literacy, flexibility and adaptability, global competencies and financial literacy are the basic 21st century skills. Another skill that supports these skills is coding. In the 2023 vision document of the Ministry of National Education indicated that in the three-year period at primary, secondary and high school levels, students, teachers, education administrators, public, curriculum, educational content, etc., at school and out of school. The studies to be carried out for this vision are stated and these studies will provide integration of production skills such as coding, 3D design, electronic design into learning processes (MEB, 2022). For this reason, studies on coding education are carried out in Turkey as well as in the world.

Coding education for students plays an important role in developing analytical and critical thinking skills (Higueras-Rodriguez & Medina-Garcia, 2020). At the same time, increasing reasoning skills, developing problem-solving skills and developing design-oriented ideas are at the center of coding-oriented studies in the field of education. Providing the necessary infrastructure for students to achieve these skills will be an important step.

With the development of technology day by day, new educational approaches and models have emerged. One of these models is the robotic coding education model. Robotic coding education is a sub-dimension of STEM

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(Reader, 2019). Developments such as driverless cars and unmanned aerial vehicles have increased people's interest in robotics and have expanded development platforms that even non-engineers can work on it (Ozturk, 2017).

As a word meaning, a robot is a device that can detect movements in its environment, interpret what it perceives and make decisions as a result, transform its decision into action with an output signal, and make autonomous or semi-autonomous decisions thanks to its sensors (Okuyucu, 2019). In addition, robots can be defined as devices consisting of self-controlled electronic and mechanical units by programming (Arora, 2008). The content of robots must have the features of perception, planning and action. These features enable robots to detect objects around them, make a plan that enables them to act appropriately, and take actions other than perception in order to interact with their environment (Okuyucu, 2019). With the development of technology, robots and autonomous vehicles take more place in our daily lives, and the importance of the software that runs them is increasing (Ozturk, 2017).

Coding; In other words, programming is called block-based programming, which literally means combining and bringing together the operations that are planned to be carried out according to certain rules and order (Reader, 2019). Coding is also defined as a special sub-task of programming that allows the writing of instructions to fulfill the purpose according to an algorithmic scheme and the use of the algorithm in specified programming languages (Guleryuz, 2019). Coding is a language used for individuals to communicate with communication technologies. It is telling computers to follow step-by-step instructions and what exactly they need to do (Gultepe, 2018). Considering all these definitions, it can be said that coding is the appropriate set of commands in any coding language, the algorithm created to deliver computer-functional electronic devices to a specific purpose.

Robotic coding, on the other hand, is defined as block-based programming to control and direct the movements of a robot created for various purposes (Reader, 2019). In addition, “the process of writing commands consisting of symbols and special words prepared to provide certain functions to electronic devices is defined as coding or programming” (Ersoy et al., 2011)

Coding education has an important place in the education of individuals who are equipped with 21st century skills, have problem solving and product development skills, and can use technology effectively. Recently, with coding education and robotics, twenty-first century skills such as problem solving, algorithmic thinking, and critical thinking skills have been tried to be taught especially to younger age groups (Barr & Stephenson, 2011; Fessakis, Gouli, & Mavroudi, 2013; Grover & Pea, 2013).

Coding education in Turkey has been included in the Information Technologies and Software course starting from the 5th grades since 2012. In addition, it is seen that there are contents for coding, programming and engineering skills in the programs of courses such as science courses, technology and design courses. When it comes to such small age groups, it is not possible to teach coding with traditional teaching methods. In accordance with the constructivist approach, it is necessary to ensure that the child learns through play, learns by doing and living, and the organized learning environment is student-centered (Uzun & Uz, 2018). It is clear that teachers who will teach these courses and provide students with coding and algorithmic thinking skills should be trained in a similar context instead of the traditional approach in order to organize a suitable learning environment for students (Hubwieser et al., 2015).

Numerous studies have been conducted in the literature to determine the effect of coding on various variables. When the results obtained from the studies are examined, it has been revealed that the variables that examine the effect of the use of robotics in education are effective in gaining students (Barak & Zadok, 2009). In another study, the importance of coding content and the importance of determining students' views on this subject and teachers' content knowledge levels were mentioned (Ozcinar et al., 2016). It has been determined that there is a steady increase in studies on coding education (Talan, 2020). It has been emphasized that the success of integrating coding education into the school curriculum will depend on teachers' perceptions of coding and how much they are prepared for innovative teaching activities (Wong et al., 2015). There are many studies on coding education in Turkey in recent years. However, these studies differ from each other. A metasynthesis study was needed to determine the trends in these studies. In addition, coding education has started to take its place in the lessons since 2012 in Turkey. In addition, since 2019, it has come to the fore to provide information technology teachers with in-service training on coding education (YEGITEK, 2019). The integration of coding skills into learning processes is emphasized in the 2023 vision document of the Ministry of National Education (MEB, 2022). In this study, in terms of showing the current trends in the studies conducted before 2023, it is aimed to determine the trends in the studies conducted between 2015-2021 on coding education in Turkey.

Research Questions

It is aimed to consider the meta-synthesis method according to the regulations made in education in education in Turkey, publication years, application area, system analysis, concluding methods, data collection tools, data analysis, and recommendations. In addition, in this study, research on tendency towards coding education was interpreted and synthesized. In this study, answers to the following questions were sought.

1- In which years did the research on coding education take place?
2- What are the subjects and application areas of research on coding education?
3- What are the research methods used in research on coding education?
4- Which study groups were preferred in the studies on coding education?
5- What are the data collection tools used in research on coding education?
6- What are the data analysis techniques used in research on coding education?
7- What are the results of the researches on coding education?
8- What are the suggestions developed in research on coding education?

Material and Methods

Research Model

In this study, meta-synthesis research method, which is a qualitative research design, was used to reveal the trends in the studies on coding education and to synthesize the obtained data. Meta-synthesis is a qualitative methodology that uses both qualitative and quantitative studies as data or analysis units (Bair, 1999; Paterson, et al., 2001; Strobel & van Barneveld; 2009). Meta-synthesis is the grouping of similar studies on a determined subject, theme or field of study under certain criteria and reinterpreting the qualitative findings or interpretations of these studies by combining and comparing them (Campbell et al., 2003; Calik & Sozbilir, 2014; Walsh & Downe, 2005). Data analysis units differ according to different researchers. In this research, both quantitative and qualitative studies were used as data analysis unit.

Data Sources and Data Collection Tool

In this study, the problem was defined according to the meta-synthesis steps developed by Walsh and Downe (2005). In this study, graduate theses and academic articles about robotics and coding education between 2015-2021 were examined. Within the study, 39 articles were examined by reaching the full texts in pdf format made in the field of robotics and coding education. The studies and graduate theses examined within the scope of the study were accessed through the databases of ULAKBIM, Google Akademik, Dergipark, Eric and YOK National Thesis Center using the keywords "coding" and "robotic coding" applications. Certain criteria have been established about whether or not these studies will be included in the research. These criteria are that the studies were conducted within national borders, they were between 2015-2021, the full text of the study was reached, and it included the keywords of coding or robotic coding applications. For this reason, as a result of the eliminations made according to the criteria, 39 articles suitable for the purpose of this study were included in the research (Appendix-1).

A publication evaluation form was developed by the researchers to examine the publications included in the study (Table 1). In this form, there are nine categories: the year the research was published, the subject and application area, research method, study group, data collection tool(s), data analysis technique, results and suggestions.While these data collecting, meta-synthesis steps developed by Walsh and Downe (2005) were applied.These steps are expressed as searching for articles, making decisions about inclusion, evaluation studies, conceptualizing and comparing the steps of analyzing studies involving “translation” of different texts, synthesizing the findings.

Data analysis

In publication evaluation form there are categories for describing the year the research was published, the subject and application area, the research method, the study group of the research, data collection tools, data analysis techniques, results and recommendations. 39 articles included in the research were analyzed within the framework of the determined categories. During the data analysis process, a code from 1 to 39 was given to each

study according to the year it was published (2015-2021) (S1, S2, …. S39). These codes were used during the presentation of the findings.

Table 1. Publication evaluation form

Code	Year of publication	Subject Area of the Study	Field of Application of the Study	Method of the Study	Group of the Study	Data Collection Tools	Data Analysis Techniques	Results	Recommendations
S-1									
S-2									
.									
.									
.									
S-39									

Validity and reliability

In this study, validity and reliability were tried to be ensured within the framework of these principles. Verifiability is ensured by a comprehensive collection of findings from a large number of studies involving various methodological approaches (Bair, 1999). To ensure verifiability in this meta-synthesis study, all studies that met the inclusion criteria were read and recorded by creating a summary form. In order to ensure the reliability or credibility of the findings, the selected articles were reviewed by another expert. Lincoln and Guba (1985) suggested making a detailed description, including direct quotations in the report, and using a language that is understandable for the reader to ensure the transferability of the research. In order to ensure the transferability in this study, the year of publication of the research, the subject and application area, the method of the research, the study groups of the research, the data collection tools, the data analysis techniques, the results and suggestions were created in tables to describe the results and suggestions, and presented to the reader in detail in the findings section.

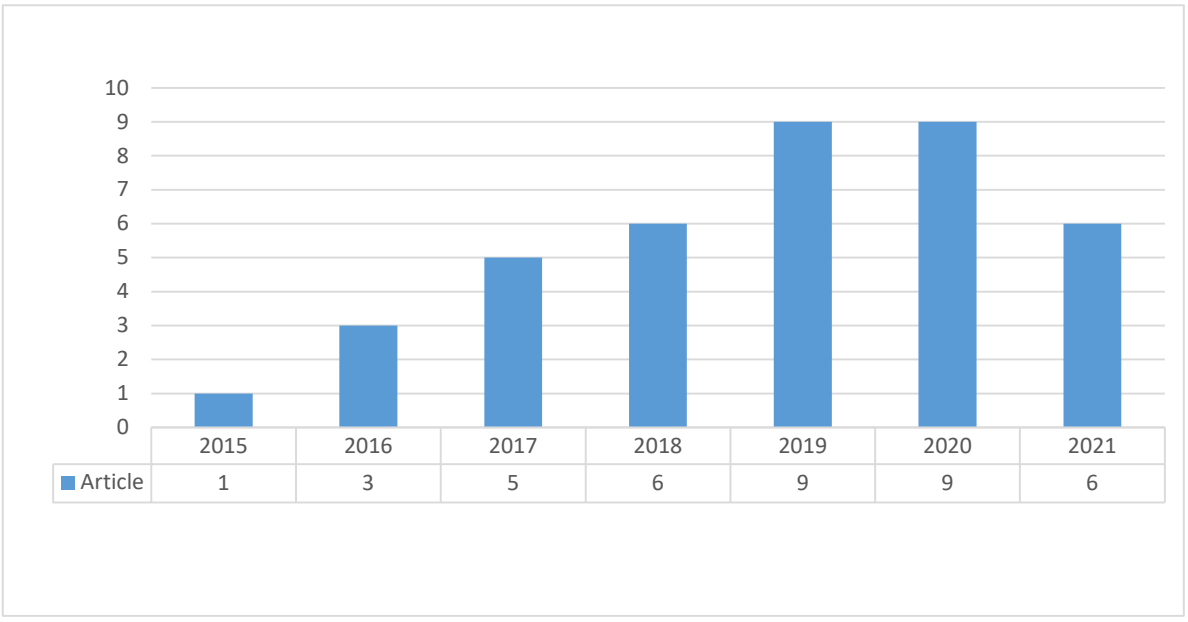

Figure 1. Distrubution of the studies according to years

Results and Discussion

Studies on coding education in Turkey were examined by meta-synthesis method with sub-objectives (year of publication, subject and application areas, research methods, study groups, data collection tools, data analysis techniques, results and suggestions). The findings obtained in this study are presented above. When the distribution of studies on coding education in Turkey according to the years of publication is examined, it has been determined that it belongs to the year 2019 and 2020 with the most 9 articles. It was determined that the least number of articles belonged to 2015 with 1 articles (Figure 1).

When the studies on coding education in Turkey are examined in terms of subject areas, it is seen that most of the studies are on coding education applications, followed by opinions on coding education and studies on product or program development in coding education (Table 2).

Table 2. Examination of the studies conducted in coding education according to the subject areas

Subject area	Studies	f
Opinions on coding education	S1, S2, S3, S4, S5, S6, S11, S12, S13, S14, S15, S16, S18, S23, S24, S25, S26, S27, S28, S30, S32, S34, S37, S39	24
Coding education apps	S7, S17, S21, S29, S31, S33, S35, S36, S38	9
Product or program development in coding education	S8, S9, S10, S19, S20, S22	6

When the studies are examined according to the fields of application, it is seen that the studies are mostly carried out in the field of educationan science and computer and engineering education followed it. However, there are few studies in the field of special education and music education for coding education (Table 3).

Table 3. Examination of the studies conducted in coding education according to the application areas

Application area	Studies	f
Educational science	S1, S2, S3, S4, S5, S6, S7, S8, S11, S21, S22, S23, S25, S26, S28, S29, S30, S31, S32, S35, S37, S39,	22
Computer education	S10, S13, S14, S15, S17, S18, S24, S27, S38	9
Engineering education	S9, S19, S20, S34	4
Special education	S16, S33, S36	3
Music education	S12	1

In the article studies on coding education in Turkey, it has been determined that the case study design, which is one of the qualitative research methods, is mostly preferred. The case study pattern was followed by document analysis, phenomenology and action research. Experimental design was mostly preferred among the quantitative research methods. The experimental pattern was followed by design research, survey method and cause and effect design. The findings regarding the research method in coding education studies in Turkey are presented in Table 4.

Table 4. Findings regarding the preferred research method in coding education

	Research method	Studies	f
Qualitative	Case study	S5, S11, S14, S15, S18, S23, S32, S37	8
	Document analysis	S4, S1, S6	3
	Phenomenology	S25, S39	2
	Action reasearch	S22	1
Quantitative	Experimental design	S3,S17,S29,S31,S33,S35,S36,S38	8
	Design research	S8,S9,S10,S19,S20	5
	Survey method	S2, S16, S13, S30	4
	Cause and effect design	S21	1
Mixed		S7,S12,S24,S26,S27,S34	6

When the findings related to the study group preferred in coding education were examined, it was determined that the most studies on coding education were preferred by secondary school students. The study group of teachers followed the secondary school students. The study group with the least number of studies was the study in which one parents were involved (Table 5).

Table 5. Findings regarding the preferred study group in coding education

Study group	Studies	f
Secondary school students	S2, S3, S5, S7, S13, S14, S17, S21, S27, S29,S30,S32,S35,S37	14
Teachers	S12, S13, S14, S15, S18, S23,S24,S28,S34	9
Primary school students	S3, S16, S22, S31,S33,S37	6
Product development equipment (mbot, Arduino, software etc.)	S8,S9,S19,S20	4
High school students	S3,S5,S37,S38	4
Document (article,thesis etc.)	S1, S4, S6, S26	4
Undergraduate students	S10, S16,S25	3
Associated degree students	S11,S36	2
Preschool students	S37,S39	2
Parents	S13	1

Interview form was mostly preferred in data collection tools for studies on coding education. Interview forms are followed by scales and questionnaires. In the examined studies, it is seen that document review, achievement test, observation form, visual material, and performance evaluation rubric are used less as data collection tools. The data collection tools preferred for coding training are presented in Table 6.

Table 6. Findings on preferred data collection tools in coding education

Data collection tools	Studies	f
Interview form	S5, S7, S10, S11, S14, S15, S18, S22, S23, S24, S25, S27, S28, S32, S33, S34, S36, S39	18
Scale	S2, S16, S17,S21, S24, S29, S30, S33, S35, S38	10
Questionnare	S3, S8, S12,S13,S23, S30, S34	7
Document review form	S1, S4, S6, S26	4
Achievement test	S7, S27, S31	3
Observation form	S22, S37	2
Visual material	S22, S39	2
Performance evaluation rubric	S7	1

In quantitative studies on coding education, mostly descriptive statistics were used. It is seen that this is followed by the analyzes to test whether the work created for product observation and testing in the design research is working, and the tests that reveal the differences between the groups. It has been determined that content analysis is mostly preferred in qualitative studies on coding education. It is seen that content analysis is followed by descriptive analysis. Also there are studies using thematic analysis and thinking aloud protocol analysis. The data analysis techniques preferred in coding education are presented in Table 7.

Table 7. Findings on data analysis techniques preferred in coding education

Method	Data analysis techniques	Studies	f
Quantitative	Descriptive statistics	S2,S16,S21,S24,S30,S34,S35,S36,S38	9
	Tests revealing differences between groups	S3, S17,S24,S29, S31, S33	6
	Product observation and testing in design research (testing whether the resulting product works)	S8,S9,S19,S20,S37	5
Qualitative	Content analysis	S6,S11,S12,S13,S15,S18,S22,S23,S24, S25,S26,S28,S32,	13
	Descriptive analysis	S1, S4,S5,S10,S12,S14,S15,S27,S39	9
	Thematic analysis	S7	1
	Think aloud protocol analysis	S16	1

When the studies are examined in terms of their results, it is seen that there are mostly results for explaining the current situation, followed by the results for intervention, product or program development. The results which preferred in coding training are presented in Table 8.

Table 8. Findings regarding preferred outcomes in coding education

Results	Studies	f
Conclusions to explain the current situation	S1, S2, S4, S5, S6, S11, S12, S13, S14, S15, S16, S18, S21, S23, S24, S25, S26, S27, S28, S30, S32, S34, S37, S39	24
Consequences for intervention	S3, S7, S17, S29, S31, S33, S35, S36, S38	9
Results for product or program development	S8, S9, S10, S19, S20, S22	6

In the studies on coding education, it is seen that the suggestions are mostly made for applications. This is followed by recommendations for future research and program development. Preferred recommendations in coding education are presented in Table 9.

Table 9. Findings regarding preferred suggestions in coding education

Recommendations	Studies	f
Suggestions for application	S2, S3, S5, S8, S11, S13, S14, S15, S16, S18, S21, S22, S23, S24, S25, S27, S28, S29, S32, S36, S38, S39	22
Recommendations for program development	S1, S4, S10, S14, S24, S28, S33, S34, S37, S38, S39,	11
Suggestions for future researchs	S6, S7, S9, S12, S19, S20, S26, S30, S31, S35	10
Those don’t offer suggestions	S17	2

Conclusion

In the research, it is considered important in terms of revealing the trend in the studies on coding and robotics between 2015-2021. In this study, the results obtained from the researches on coding education in Turkey were discussed. In this context, when the distribution of studies on coding education in Turkey according to the years of publication is examined, most of studies were found in 2019 and 2020, while the least number of studies were found in 2015. Considering the publication years of the studies, it is seen that the studies continue to increase. This finding coincides with the findings of the other studies in the literature (Aksu & Durak, 2019; Schad & Jones, 2020; Talan, 2020; Yolcu & Demirer, 2017).

When the studies on coding education in Turkey are examined in terms of subject areas, it is seen that most of the studies are on coding education applications, followed by opinions on coding education and studies on product or program development in coding education. Studies on the use of robotics in education are seen to be conducted on applications (Costa & Fernandes, 2008; Lindh & Holgersson, 2007; Shimada et al., 2012; Sullivan & Bers, 2017; Sanal & Erdem, 2017; Varnado, 2005; Williams et al., 2007). As a result of applied studies on robot design, robot competitions and robot projects, students can develop many skills such as problem solving, finding practical solutions to problems, critical thinking, realizing their own abilities, gaining first-hand experiences by doing and living, increasing the level of using technology and more willingness to use technology. It has been seen that they won (Costa & Fernandes, 2008). In a study by Sanal and Erdem, (2017), the effects of coding and robotics studies on problem solving skills were investigated. The problem solving processes of the students who did coding and robotics studies in the research and the problem solving processes of the students who did not do coding and robotics studies; It has been concluded that if the problem is technical, it varies. However, some studies suggested that students working with Lego and robots do not contribute significantly to their problem solving skills and student success (Lindh & Holgersson, 2007; Varnado, 2005), they do not provide a rich content to students in mathematics, science and engineering and do not provide very specific information. In studies on robots, it has been seen that the using of robots in education has positive effects on students' cognitive, language, social and moral development. In a study conducted by Cankaya et al., (2017), it was concluded that students' opinions about their education with robotic programming were generally positive, and that the education provided was motivating, entertaining and contributed to programming learning.

When the studies are examined according to the fields of application, it is seen that the studies are mostly done in the field of education, followed by computer and engineering education. However, there are few studies in the

field of special education and music education for coding education. In the study conducted by Yolcu and Demirer (2017), it was found that these disciplines, in which the use of robotics in education is mostly in STEM studies, are composed of science and technology, robot applications, computer science, camp programs, foreign language, mechatronics, physics, chemistry, biology and electronics courses, respectively. This finding supports the finding of the study. In the study conducted by Talan (2020), it was understood that the studies on educational robotics applications were mostly structured in the field of Information Technologies. Coding is not only limited to computer science, but also very important in terms of interdisciplinary interaction (STEM) (Guleryuz, et al, 2020).

In the article studies on coding education in Turkey, it has been determined that the case study design, which is one of the qualitative research methods and experimental design, which is one of the quantitative research methods, is mostly preferred. The case study pattern and experimental design were followed by, design research and mixed design from quantitative research methods. It has been determined that the least used research methods related to coding education are action reasearch from qualitative research methods, causal comparison designs from quantitative research methods. In the study conducted by Yolcu and Demirer (2017), it was seen that qualitative, quantitative and mixed methods were preferred, respectively, and the fact that qualitative case studies and quantitative experimental research designs were predominantly used in these studies is similar to this finding. In a study conducted by Donmez (2017), in which the opinions of students and team coaches on robotic tournaments were examined within the framework of STEM education and a case study pattern was used, it was determined that robot kits were fun and functional, attracted students' attention, increased their motivation, and increased their interest in research and scientific studies. In the study conducted by Talan (2020), in which studies on educational robotics applications are examined, it is striking that quantitative and mixed methods are based on as a research method, but the qualitative method is relatively not preferred.

When the findings related to the study group preferred in coding education were examined, it was determined that secondary school students were preferred the most in the studies on coding education. The study group following the secondary school students was the teachers. The study group with the least number of studies was the study in which one parent was involved. This finding can be considered as an indication that science, technology and engineering education is given from an early age to meet the qualified workforce needs of countries (Sullivan & Bers, 2017). In secondary school, however, students encounter different disciplines. These disciplines include disciplines in STEM education such as science, mathematics, technology and design. This situation can be considered among the reasons for the high number of studies at the secondary school level. Talan (2020) concluded in his study that most of the studies on coding are done at the secondary school level. In addition, in the study conducted by Yolcu and Demirer (2017), it was concluded that the studies on the use of robotics in education were mostly carried out in the secondary school, primary school and pre-school period, respectively. These results are consistent with the results of this study. As a result of the research conducted by Talan (2020), it was understood that the studies were generally carried out at the secondary school level. As robots become more common in our daily lives, the use of educational robot kits is becoming a popular tool to provide children with opportunities to learn how to make their own robots (Resnick, 1998). According to Bers (2007), while most of the studies are done in middle and high schools (Rogers & Portsmore, 2004), recent studies have started to look at the use of robotics in early childhood, preschool classrooms (Bers et al., 2002; Cejka et al. , 2006). Unlike the generations who memorize, do not question, and cannot criticize, these skills are tried to be instilled with coding education at an early age in order to raise new individuals equipped with 21st century skills. While the basic information of coding education was learned in engineering faculties, today these trainings are given at secondary school levels. This situation provides benefits for students to learn software education in the process and in a more solid way.

In the studies on coding education, the data collection tools were mostly preferred by the interview form. This is followed by scales and surveys. In the studies examined, it is seen that achievement test, observation form, visual material, document review and performance evaluation rubric are used less as data collection tools. Among the data collection tools used in the study conducted by Yolcu and Demirer (2017), it is seen that observation and interview forms are used the most. While the interview part of this finding is in parallel with this result, the observation form explains the opposite situation. In this study, it can be said that the preference of interview, one of the data collection tools, is related to qualitative studies and mixed studies. In the study conducted by Talan (2020), it was concluded that the most used data collection tools were learning level/achievement, interview, observation, attitude and questionnaire.

It has been determined that content analysis is mostly preferred in qualitative studies on coding education. It is seen that this is followed by descriptive analysis. It is seen that descriptive statistics are mostly used in quantitative studies on coding education, followed by analyzes to test whether the product created for product

observation and testing in design research works, and tests that reveal the differences between groups. In a study conducted by Talan (2020), it was determined that the most used data analysis technique in the studies examined was frequency/percentage, mean/standard deviation, t-test and ANOVA. It is important to choose the right method in studies and to apply the chosen method appropriately (Frankel & Devers, 2000).

When the studies are examined in terms of the results, it is seen that mostly results are found to explain the current situation, followed by the results for intervention and product or program development. In the examination of the results of the studies on coding education in Turkey, the most coding education; It has been stated that it significantly affects attitudes, thoughts, verbal creativity, attitudes towards technology, motivation, self-efficacy and perceptions. It can be said that coding and robotics education improves students' self-confidence by increasing their attitudes and motivation towards the lesson (Akman-Selcuk, 2019; Kilinc, 2014; Talan, 2020; Yolcu, 2018). Another is that there are results that have a positive effect on thinking styles (problem solving, critical thinking, reasoning, creative thinking, mental image, etc.). Similar studies have shown that coding and robotic education increase problem solving skills (Canbeldek, 2020; Sanli & Erdem, 2017). In fewer studies, it has been determined that students perform active learning with the help of robotic codes, some limitations of educational robotic applications are determined, there is no learning loss according to the forgetfulness levels of coding and robotic subjects, the in-service training period in coding education is insufficient and limited, and the software functionally meets certain expectations. performance, usability, safety, reliability and maintainability have been determined as the results that add added value to the hardware on which it works.

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It is seen that the suggestions made in the studies on coding education are mostly made for applications. It is seen that this is followed by suggestions for future research and program development. Similarly, a study emphasized that the success of integrating coding education into the school curriculum will depend on teachers' perceptions of coding and how much they are prepared for innovative teaching activities (Wong et al., 2015). With the development of the Internet and technology, software and coding are also developing. For this reason, the prominence of suggestions for providing in-service training on robotic coding to the stakeholders of the education and for the inclusion of robotics and coding courses in the curriculum and their association with the achievements explains this situation. In the study conducted by Wong et al., (2015) to determine the difficulties of integrating coding education into the school curriculum, it was revealed that teachers need training and have deficiencies related to the curriculum. In the study conducted by Yukselturk and Altiok (2015), it was concluded that teacher candidates want to be informed about developing technologies and they need this type of training to improve themselves. Sonmez and Sahinkayasi (2021), in the study of teachers' views on the maker movement and robotic coding activities, stated that most of the participants, administrators, teachers and parents did not have the knowledge and skills about MH and RC, they had difficulty in finding support for their studies on the subject. He also stated that it prevented the spread of related activities. In another study conducted by Oz Yildiz

et al., (2020), it was concluded that teachers expect in-service training on the subject to be given by the National Education Directorates. YEGITEK (2019), on the other hand, suggested in his report that regular in-service training should be provided for information technology teachers and that coding education should be included in training-support courses. Wong et al., (2015) emphasized that the success of integrating coding education into the school curriculum will depend on teachers' perceptions of coding and how well they are prepared for innovative teaching activities. In many countries, various training activities are organized for teachers in order to disseminate educational robotic activities in educational institutions (Kim et al., 2015).

Countries, educators and scientists, who are aware of the importance of providing science, technology and engineering education to students in the first years of their education, are trying to conduct various researches to examine the effects of computer and robotic use in education in order to gain these skills (Bers, 2007). For this reason, it is evident that there is an increased interest in studies on the use of robotics in education and studies examining the effects of many different variables (Yolcu & Demirer, 2017). As a result of this study, in 2020, more studies were carried out on coding education, studies were carried out to determine opinions on robotics and coding education, case study was preferred more than qualitative research, mostly secondary school students were preferred as the study group, data were collected mostly by interview technique, and the analyzes were analyzed. It has been revealed that content analysis is frequently used. In the studies, it was seen that mostly results were obtained to explain the current situation and suggestions for applications were included.

Recommendations

In this research, it is aimed to examine the studies on coding and robotics education in different dimensions and to share the results with researchers. The following recommendations can be made as a result of this research. While it is known that the examined studies contribute to the field of coding education from different dimensions, it is thought that examining the relevant literature as a whole on the basis of these dimensions will contribute to the perspectives on coding education. It is thought that this study will guide future research. As a result of this study, it is seen that there are many studies conducted with secondary school students. However, there are also studies for high school and pre-school. In other studies to be done, longitudinal studies related to robotic coding can be planned. In addition, studies based on different years, using different methods and different data collection tools can be examined. When the studies are examined in terms of the results, it is seen that there are mostly results to explain the current situation, however, the suggestions made in the studies on coding education are mostly for applications. This situation raises the need for more experimental studies on robotic coding. Here, the proficiency level of knowledge and skills of teachers, who have an important role in practice, comes to mind. In a study conducted by Wong et al., (2015) to determine the difficulties of integrating coding education into school programs, it was revealed that teachers needed training and had deficiencies related to the curriculum. In addition, in many countries, various training activities are organized for teachers in order to disseminate educational robotic activities in educational institutions (Kim et al., 2015). In Turkey, in-service trainings can be organized for practitioners to associate coding education with the program and to implement it.

Conflict of interest statement

The authors declare that there is no conflict of interest.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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Appendix-1. Information on studies examined in coding education

Code of the Study	The Identity of the Study	The aim of the study
S1	(Catlak, Tekdal & Baz, 2015)	The aim of this study is to examine the scientific studies made with the Scratch programming language and to share the results with the relevant segments.
S2	(Kececi, Alan & Zengin, 2016)	In this study, it is aimed to develop a measurement tool that can be used to determine secondary school students' attitudes towards coding learning supported by educational computer games.
S3	(Zengin, 2016)	The purpose of this research; The aim of this study is to examine the changes in students' views on the use of robotic systems in interdisciplinary education, from primary school to the end of high school, according to the variables.
S4	(Demirer & Sak, 2016)	The purpose of this study is to introduce innovative approaches and practices that emerged in the programming field, by shedding light on the current state of the programming education around the world and specifically in Turkey.
S5	(Donmez, 2017)	To determine the opinions of middle school, high school students and team coaches who participated in the "First Lego League/Science Heroes Meet" tournament within the framework of STEM education on the tournament process, robot design, programming and cooperation
S6	(Yolcu & Demirer, 2017)	Examining the studies on the use of robotics in education with a systematic view
S7	(Cankaya, Durak & Yunkul, 2017)	To examine the performances and opinions of students who receive programmatic education with robots.
S8	(Numanoglu & Keser, 2017)	To determine the usability of the mBot- STEM Educational Robot Kit platform, produced and developed by Makeblock, in teaching programming
S9	(Suzen, Ceylan, Cetin & Ulusoy, 2017)	Modeling a robot that draws on the X-Y plane using an Arduino development board
S10	(Uzun & Uz, 2018)	Developing the curriculum of the course by conducting a needs assessment for the elective course 'Embedded Systems and Robotic Applications' taken by the pre-service teachers studying at the Department of Instructional Technologies
S11	(Yilmaz-Ince, 2018)	To reveal the necessity of diversifying and strengthening education in the field of software with the rapidly developing technology.
S12	(Karademir, Cesur, Buyukergen, Kaba & Keseci, 2018)	Examining teacher opinions on whether robots can be used in music education
S13	(Turker & Pala, 2018)	To determine the opinions of 5th and 6th grade students, information technologies and software course teachers and parents of students about coding
S14	(Goksoy & Yilmaz, 2018)	To determine the opinions of the students who take robotics and coding courses and the information technology teachers who teach the course about robotics and coding course.
S15	(Gultepe, 2018)	To examine the reflection of the project on the students through the eyes of the teachers teaching coding (programming) within the scope of the project.
S16	(Alkan, 2019)	To determine the attitudes of gifted students who are educated in a programming environment where students can prepare three-dimensional games with the logic of programming and algorithms towards computer games-assisted coding learning.
S17	(Esgil & Gunduz, 2019)	To determine the effect of using coding activities in computer lessons on students' attitudes towards computers and their affective participation in information technologies lesson.
S18	(Aksu & Durak, 2019)	Examining robotics coding and robotics tournaments from the perspective of Information Technology (IT) teachers
S19	(Topuz, Coban,	Developing the university's own robotics training set that can be used in

	Aslan & Tufancli, 2019)	electronic and robotic coding education, is simple to program, short-circuit protected, can be coded by typing or block-based, module connections are easily visible, has no licensing and copyright issues, is low-cost, and can reduce the export of public resources.
S20	(Sumbul & Colak, 2019)	To design and create a programmable, domestic and national Robotic Coding Training Set that will help children understand the logic of algorithms.
S21	(Korucu & Tasdonduren, 2019)	To examine secondary school students' self-efficacy perceptions towards block-based programming and their attitudes towards robotics according to some variables.
S22	(Akcay, Karahan & Turk, 2019)	By developing a coding-oriented teaching process in line with the levels of primary school students, the learning experiences of the students in this process are to be examined in depth.
S23	(Unsal & Arikan, 2019)	To examine the opinions of secondary and high school school administrators on coding education.
S24	(Korkmaz, Sahin, Cakir & Erdogmus, 2019)	To reveal the attitudes and coding self-efficacy of information technology (IT) teachers working in secondary schools about coding
S25	(Guleryuz, Dilber & Erdogan, 2020)	To reveal the views of science teachers on coding education within the scope of STEM applications.
S26	(Talan 2020)	To examine the studies on the use of robotic applications in education in terms of different variables.
S27	Arslankara & Usta, 2020)	To determine whether secondary school students do any learning activities on Information Technologies and Software (BTS) during their summer holidays and whether they have learning losses at the return of summer vacation.
S28	(Guven & Cakir, 2020)	To determine the opinions of classroom teachers who received in-service training on robotic coding applications.
S29	(Caliskan, 2020)	To examine the effect of robotic programming education on middle school students' problem solving skills.
S30	(Korucu & Bicer, 2020)	In this study, which aims to examine secondary school students' attitudes towards robotic coding, it is aimed to examine students' attitudes towards robotic coding in terms of different variables.
S31	(Haymana & Ozalp, 2020)	To examine the effects of robotics and coding education on the creative thinking skills of primary school 4th grade students.
S32	(Eskici, Mercan & Hakverdi, 2020)	To examine the effects of coding education prepared for secondary school students on the learning environment and mental images of students.
S33	Kilickiran, Korkmaz, & Cakir, 2020)	To determine the effect of robotic coding education on the problem-solving skills of gifted students at primary school level and their self-efficacy regarding block-based coding.
S34	(Sonmez & Sahinkayasi, 2021)	To examine the demographic information of the teachers who carry out Maker Movement (MH) and Robotic Coding (RC) activities in Turkey, the problems experienced in these activities and their suggestions for their solutions.
S35	(Eroglu & Hamzaoglu, 2021)	To investigate the effect of robotic coding activities on secondary school students' attitudes towards science in the force and energy unit.
S36	(Demir, 2021)	To examine the place of coding education in developing problem solving skills of special education students.
S37	(Yalcin & Akbbulut, 2021)	To be able to demonstrate how the STEM approach can be integrated into robotics and coding education
S38	(Ramazanoglu, 2021)	To examine the effects of robotic coding practices on secondary school students' attitudes towards computers and their self-efficacy perceptions towards computational thinking skills.
S39	(Secim, Durmusoglu & Ciftcioglu, 2021)	To investigate the opinions of preschool children about educational robots using robot drawings.

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Talent Development: Examining the Impact of University Education on Entrepreneurship

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Abstract: The purpose of this research was to identify various components of university education that influence students' venture creation and entrepreneurial behaviour. A literature review was completed to identify how university education impacts entrepreneurship. Based on a conceptual model developed, a realist evaluation was conducted to examine the relationship between university education and entrepreneurship. For the evaluation, fifteen student entrepreneurs from the University of Guelph in Ontario, Canada were interviewed to gain insight into their experience and evaluate which components of university education they found pivotal to their entrepreneurial undertaking. Interviewee responses were assessed to establish collective findings and identify elements of university education that may be modified to promote students' entrepreneurial behaviour further. The research demonstrates direct alignment between interviewee responses and literature, identifying the promotive influence of an adapting and engaging university environment, decentralized curriculum, diversity of involvement, promotion of intrapreneurship and entrepreneurship, and contributing to community development. As a result of the interviews conducted, the study identifies two unspecified elements within the literature, collaborative education and emphasizing the application of education. These findings provide concrete insight into the impact of university education on entrepreneurship.

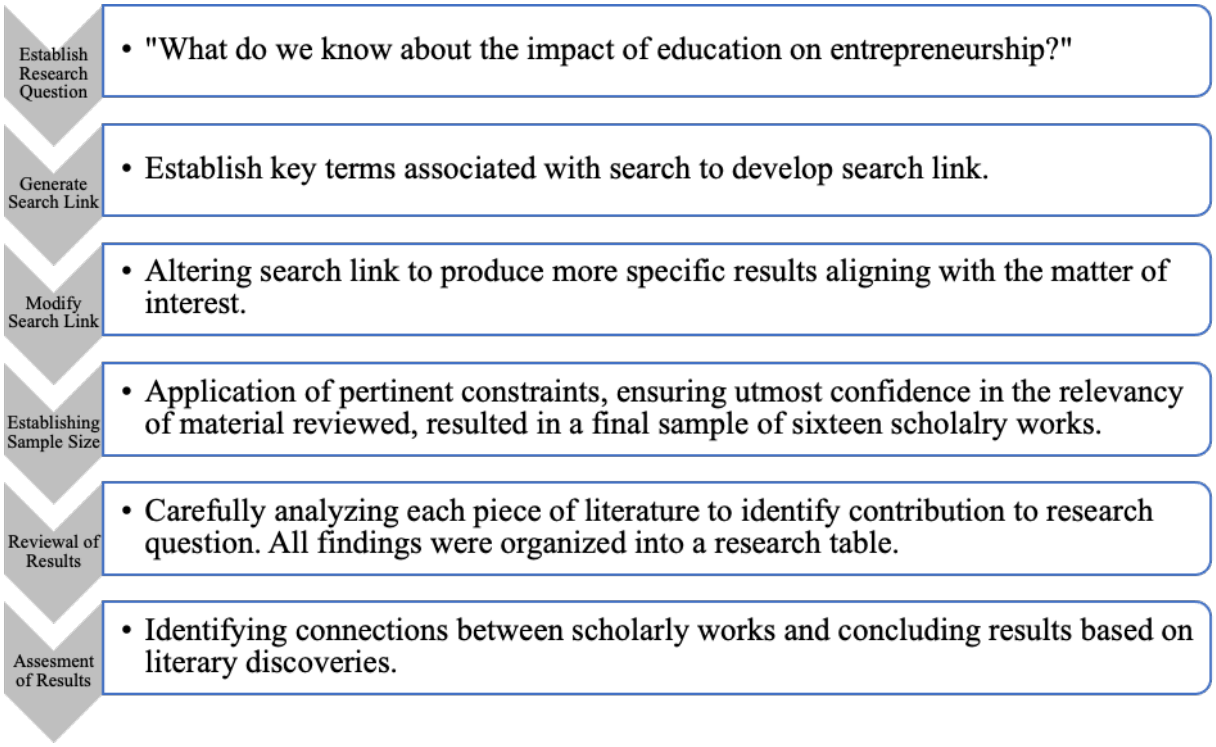
Keywords: Entrepreneurship, University education, Realist evaluation

Introduction

Education and entrepreneurship are two individual entities that are influential in the development of society. Each promotes knowledge and proficiency in specific disciplines and can initiate innovation. This study defines the term entrepreneur as an individual who creates a business, enduring financial risk with the anticipatory motive of generating sustained profit. University education is not a directive component necessary to pursue entrepreneurship, as many have found success in entrepreneurship without formal education. Therefore, how university education can uniquely play a role in pursuing entrepreneurship is to be examined. The capacity in which education affects entrepreneurship development is to be explored as the relationship's potential generates intrigue. Investigating specific elements of university education that are influential to entrepreneurial development will provide ideas on how to develop a curriculum for entrepreneurship education.

A literature review was conducted to examine the impact of education on entrepreneurship. Using the results of the literary research, fifteen student entrepreneurs from the University of Guelph were interviewed to verify and extend the findings in light of their perspectives on the impact education has on entrepreneurship. The findings from the literature were considered as a program theory. The method of a realist evaluation examines the impact of the elements of education that contribute to entrepreneurial venture creation, expanding on the relationship between education and entrepreneurship and providing evidence for the literary findings with firsthand research.

Literature Review Process



The literary sources analyzed generated a global perception applicable to the Canadian university ecosystem. There was a significant variation of countries from which literary works were collected: Netherlands, United Kingdom, Hong Kong, Ukraine, Russia, Brazil, Spain, and Canada. Each piece contributed a unique perspective, as no two scholarly journals were distinctly alike. However, upon analyzing the findings, there were similarities amongst the generated discoveries.

Results of Scoping Review

Studying internationally was found to influence how students engage with entrepreneurship. Students who conduct their education in a foreign setting are more likely to become entrepreneurs than students who do not (Breznitz & Zhang, 2019). The opportunity for students to immerse themselves in an unfamiliar setting and partake in a diverse range of opportunities contributes to the development of oneself. Breznitz and Zhang (2019) identified international experience as foreign study, volunteering, internships, and personal travel. The incorporation of various elements was thought to maximize students' time abroad. Krabel (2018) also recognized international experience to play a role in students' pursuit of self-employability upon graduation; however, their findings were of modest influence. The ability to broaden and diversify one's global perception is advantageous. Foreign experience translates well in business operations as it provides managers with a comprehension of international relations. This positively benefits organizations regarding internationalization, especially newly developed and smaller firms (Breznitz & Zhang, 2019).

A discovery consistent throughout the scholarly results was the contribution an adaptive and engaging educational environment has to students' venture creation. A case study conducted exclusively at the University of Chicago Booth School of Business elaborates on how the institution adapted to provide additional resources for students interested in pursuing entrepreneurship (Miller & Acs, 2017). The university accommodated student entrepreneurial spirit by introducing other applicable courses, maximizing alumni engagement, and venture incubation. The institution created an empowering environment where students can be confident in their entrepreneurial undertakings (Miller & Acs, 2017). Success has been demonstrated, and external stakeholders are keen to collaborate due to the University of Chicago's model. Publicly traded firms such as Grubhub, Groupon, and Braintree Financial are all entrepreneurial ventures that originate from student entrepreneurship at the University of Chicago (Miller & Acs, 2017). Contributing to this ideology of a promotive educational environment, Moraes et al. (2020) found that providing a nurturing environment in which prospective student entrepreneurs could network, gain input from experienced entrepreneurial faculty members, and potential access

to investments was crucial in facilitating student-led ventures. The structure and passion of the institute are influential in the success of its entrepreneurial education program (Zhang et al., 2016). A degree of widespread variation in the university ecosystem offerings was also a significant factor in the relationship between university education and entrepreneurship. Broadened studies are preferred at the undergraduate level compared to valid specialization (Nieuwenhuizen et al., 2016). The assimilation of a decentralized curriculum allows students to customize their education to align with their interests and further explore entrepreneurial aspirations.

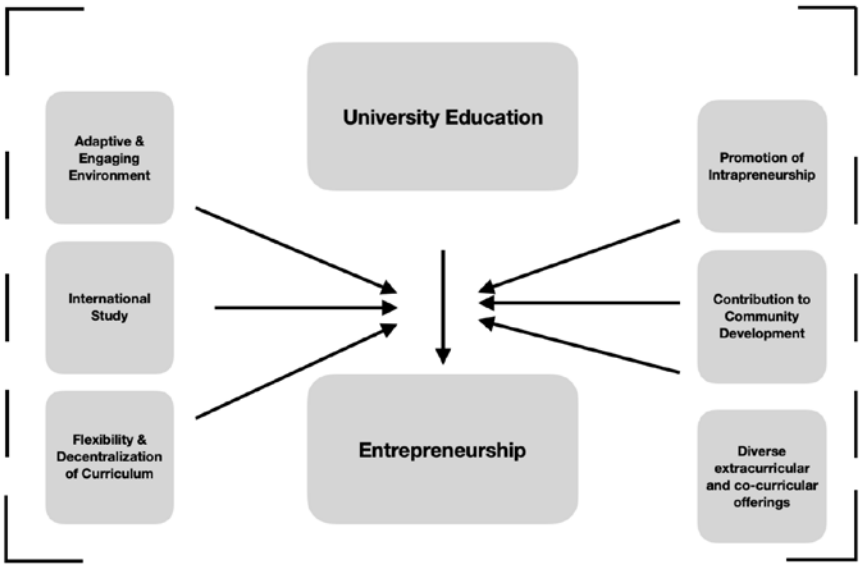
Diversity of involvement exposes students to an array of opportunities. Shirokova et al. (2017) identified extracurricular and co-curricular participation, such as student clubs, mentorship programs, and case competitions, to provide an exceptional experience in enhancing students' social capital and providing them with invaluable skill development. Such opportunities generate entrepreneurial thinking and stimulate innovation amongst university stakeholders (Guerrero et al., 2016).

An intriguing finding that possesses excellent potential contribution to socioeconomics is the development of intrapreneurship stemming from entrepreneurial education. Intrapreneurship is the strategic promotion of employee engagement with innovative initiatives (Ewango-Chatelet, 2019). This is a significant discovery as it identifies the employable potential associated with entrepreneurial education. A misconception of the relationship between education and entrepreneurship is that self-employment and venture creation are explicit options available to graduates. Disruptive thinking can benefit organizational growth, and intrapreneurship amongst employees may offer great potential. Intrapreneurship is also present within the university ecosystem, as faculty are encouraged to be innovative in the entrepreneurial development of traditional education (Moraes et al., 2020).

Prevalently identified by multiple scholarly journals was the regional benefit of promoting entrepreneurship in universities. Entrepreneurial development contributes to regional and national economies (Pugh et al., 2018). Regional challenges, both social and economic, drive institutional research and venture creation leading to the inception of solutions. A concept identified as the Knowledge Triangle, the relationship between education, research, and innovation (Unger & Polt, 2017) elaborates on innovative education's beneficiary impact on institutions and their external environment. In addition, Stavytskyy et al. (2019) discovered a direct relationship between the Global Innovation Index and education funding. The innovative work enriches socioeconomic growth, making a vital contribution to society due to community engagement and strategic alliances.

Therefore, it is to be concluded that the following elements of university education have a substantial impact on the development of entrepreneurship; experience studying abroad, participating in an adaptive and engaging university environment, flexibility and decentralized curriculum, diverse extracurricular and co-curricular offerings, the promotion of intrapreneurship and entrepreneurship, and contribution to community development. The collection of literary works provides insight into the relationship between education and entrepreneurship and awareness of the relationship's potential.

Conceptual Framework of University Education's Impact on Entrepreneurship



The conceptual framework above demonstrates an interaction effect, a variable's impact on a direct relationship. The identified elements of university education can strengthen university education's impact on entrepreneurship. This contributes to education theory, which explains the relationship between university education and entrepreneurship. As identified above, university education can significantly impact entrepreneurship using strategic resources.

Verification of the Conceptual Model

At this study stage, the conceptual model developed through the literature review was utilized as a program theory to conduct a realist evaluation (Pawson & Tilley, 1997) of a university program to develop student entrepreneurs. In this approach, the experience of student entrepreneurs within a university ecosystem was assessed and cross-examined with the data through the conceptual model. The realist approach emphasizes the exploration of specific circumstances that form the setting of a program and its capacity to identify the presence of exceptional potential. A case of an incubator program that supports students in developing their entrepreneurship was considered.

The John F. Wood Centre for Student and Business Enterprise is affiliated with the Gordon S. Lang School of Business and Economics. The centre operates an initiative called The Hub Incubator Program, also referred to as "The Hub," promoting and supporting innovative start-ups initiated by University of Guelph students and alumni. The Hub provides comprehensive knowledge to benefit entrepreneurs in their entrepreneurial ventures and is an elite resource for University of Guelph students and alumni. Its support ranges from developing a stable business model to monetary funding opportunities.

As part of the evaluation, fifteen student entrepreneurs who had participated in the program were interviewed to gain input on their experience and evaluate which components of university education they found pivotal. The purpose of the interviews was to use the conceptual model developed from the literature review to identify various parts of university education deemed influential in students' venture creation, identify connections between the interviewee's experiences, and indicate elements of university education that may be modified to promote entrepreneurial behaviour further. The interview protocol included questions such as:

What compulsory courses or developmental activities would you recommend to students interested in entrepreneurship?
What part of your educational experience would you alter if you had the chance to?
What metaphor would you use to describe the impact of education on your entrepreneurship?

Fifteen student entrepreneurs who had gone through the program participated in the semi-structured interviews answering a series of questions curated specifically from the conceptual model for this study. All interviews were conducted securely via virtual meeting platforms to abide by COVID-19 health & safety regulations. The interviews were recorded, converted to transcripts, and coded using NVivo 12.

An essential element of diversity present amongst the entrepreneurs interviewed was the stage of their enterprise. As presented in table 1, some entrepreneurs were in the early stages of their business, others had been operating for more than a year, and some entrepreneurial ventures had proven to be unsuccessful. The range of accomplishments achieved by each entrepreneur's venture offers a valuable array of perspectives.

Table 1. Representation of interviewees

	Female	Male	Under graduate	Graduate	Total Representation
Bachelor of Commerce	1	2	3	0	3
Bachelor of Engineering	1	6	6	1	7
Bachelor of Science	2	3	4	1	5
Total	15		15		15

Following the theory-driven (Pawson & Tilley, 1997) design of the verification process, the template analysis style of thematic analysis was used (King, 2012) for analyzing the interviews. Template analysis is helpful as the focus is more on a cross-analysis of responses rather than an analysis of individual responses (Brooks & King, 2012). The conceptual model serves as 'a priori' tentative themes developed before the analysis process (King, 2012). The analysis helped us use these a priori themes, identify which were present in the interview data, and identify new themes emerging through analytic engagement with the data. These new themes could

refine the conceptual model. Following the tradition of template analysis, a mixture of top-down and bottom-up coding approaches were followed (King, 2012). The first stage was theory-driven, in which the transcripts were read to identify themes and categories in the conceptual model.

The second stage was data-driven. In this stage, themes describing the impact of education on entrepreneurship development were searched. This stage consisted of reading the interviews, assessing the revealing ideas or concepts, and tagging them with codes. This approach allowed research findings to emerge from the interview transcripts without the limitations imposed by the framework (Thomas, 2006). After the analysis, the interview data were compared with the conceptual model to clarify, improve or refute the conceptualization (Pawson, 1996). Conceptual memos were used to record the results of this comparison. These codes and their level of agreement have been included in the results.

Results

The literature review indicated that university education allows students to acquire and develop skills. Therefore, interviewees were asked if they could identify three skills they formed in university that have translated to their entrepreneurial undertaking. The array of skills developed in university was regarded as influential and translatable to entrepreneurship. Expanding on interviewees' answers, critical examples of the most identified skills were organized to understand the impact further. Time management, communication, networking, and problem-solving accounted for over 40% of total responses.

By immersing themselves in the university ecosystem, students develop a skill set that gives them a foundation to pursue entrepreneurship confidently. One interviewee communicated that education supports entrepreneurs as the training wheels that balance a bicycle.

"Sometimes there's even trauma that's associated with learning to ride a bike without training wheels. So, the risks of not wanting to go back to a bike are higher without the training wheels than there is if you learn with training wheels because if anything, it might just take longer."

The interviewee expressed that education has supported them in their venture, providing them with confidence as they had acquired the skills in university necessary to become a successful entrepreneur. In addition, another interviewee voiced how education served as building blocks from which their venture creation stemmed.

"I think that education is really kind of the building blocks on, you know, rising up to the level where you understand how these different components kind of come together."

This is compelling information contributing to skill development in university to be influential in students' venture creation.

Interviewees also shared curricular, extracurricular, and institutional elements of their university experience that they attributed as influential in their venture creation.

Table 2. Entrepreneurial skills developed in university

Skill	Number	Frequency	Connection to Entrepreneurship
time management	6	0.136	"Taking responsibilities and managing your schedules and being organized because you have all these different conflicting things going on in business, while sorting other deadlines and courses and exams and papers and all that stuff"
communication	4	0.091	"Definitely communication like everything's about people. You have to be able to communicate with people. And believe it or not, I used to be like a really shy kid. So, university like high school, I guess a little more. But at university I was just like case competitions, like you kind of name it, that sort of thing. And I think that really helped me" "Just being out there on campus and even having regular chit chat, it improves your communication skills by a lot"
networking	4	0.091	"Going to conferences or panel events, just talking to anyone there and shaking their hand, getting your name in their face and asking what they do, and I think it can go a long way if you link them on LinkedIn and you never know when it might come up"

			"I would say another one that I learned is this actually learn from the business campus is that people are always willing to help people. People generally want to see other people succeed and people are always willing to help. That's the point of your network. If you reach out to them, you can actually move boulders quite easily. You just have to get people moving in the right direction and acting quickly" "I'd say a social aspect throughout university, you have to be social to meet new people, make new connections, and that's very big in the business world"
problem-solving	4	0.091	"I would say definitely the idea that no problem is insurmountable, everything can be broken into pieces to solve slow and slow and steady"
analytical skills	3	0.068	"Analytical skills…seeing things from different perspectives and finding new ways to look at things"
presentation skills	3	0.068	"Another thing that I got from education would be speaking public speaking, which is another key thing" "So, a lot of the classes, I'm sure you can probably relate that there was a lot of group work you had to present and get up in front of the class. So, presenting skills, definitely. And I think that would help with kind of coordinate with pitching. So, I think that's important"
resiliency	3	0.068	"The willingness to fail, so this isn't my first failure as an entrepreneur, and they're not I don't see them as failures personally. I see them as learning experiences. But as well in my coursework, I've failed I've not gotten to where I would hope to be. So that's definitely something I learned"
organization	3	0.068	"Organizing your time, planning everything and throwing everything on Apple calendars, that was pretty big"
design	3	0.068	"I'm going to say the first one is definitely like problem solving and like the design process. I think a lot of that comes from engineering, but it's very much like instead of just accepting or settling for something the way it is, it's I think I saw this like; how can we be more efficient? How can we be better? How can we innovate to make this problem easier or get rid of this problem and like in everyday life?"
getting things done	3	0.068	"I'd say the drive to just do things so. You can talk about doing an idea all day, but just doing it, getting it done, I think through my coursework I just had to get things done. It doesn't matter if they were done to the perfection they wanted. They just had to get done. And that kind of translated to my business eventually"
teamwork	3	0.068	"You learn how to work as a team when you're with other people and especially people who are like minded and around the same skill level"
technical skills	2	0.045	"The technical knowledge that at least I need for a lot of the projects I work on"
entrepreneurial spirit	1	0.023	"Having six courses that are very intense, like just like really push your time management skills and it pushes you it pushes you to limit until you realize that was never a limit and then you just keep going. And so, I think especially in entrepreneurship like that mindset, like it's a lot of work. It's not a joke. Like you have to be willing to like that"
critical thinking	1	0.023	"I mean, engineering is very broad discipline and there's a lot of different types of engineers. But I think most of them have to have critical thinking where they're able to, you know, look at a situation or problem from multiple perspectives and not just the most obvious one and end the problem solving how to actually solve the problem and understanding that there are typically multiple solutions to the problem"
collaboration	1	0.023	"I find that with every group project, I learn something better, like I learn who I like to work with, who works well with me, and I learn how to be a better group member and how to be complacent or compromising to a certain degree"

Table 3. Developmental aspects of university influential to entrepreneurship

Influential Aspect	Number	Frequency	Connection To Entrepreneurship
curricular	19	0.543	"Yeah, honestly, I feel like business courses always are a benefit because at the end of the day, no matter where you work, you're working for business. And in order to do that effectively, you need to know how they run." "I would recommend engineering just because, like, you learn how to break things down, like into the minor details where you just tackle them one at a time and just solve problems."
extracurricular	9	0.257	"I would have been given the opportunity to get involved, getting out of your comfort zone and meet people, networking, collaborating with others to share your ideas. I think that that contributes to it. And finding like-minded individuals as well."
institutional	7	0.200	"I consider university to be a community where people come together to develop their own skills and collaborate and grow individually, but collectively as well, and then take those requirements alone and to do good benefits." "So, I think just like surrounding yourself with mentors and people and seeking those people, especially in a university environment, there's tons of people that are willing to give you guidance, mentorship and just. Run with an idea."

Exclusively of the interviewees studying engineering, four of the seven communicated their design courses to be imperative for their entrepreneurial success. One interviewee elaborated on the ambiguity associated with the class.

"I think design courses for engineers really help, or at least it really helped me because you're essentially given a very broad issue, and you're told, you know, you can fix this however you want just to do this. And so, you're given the end goal and you're not really given any path to get there."

Interestingly, the ambiguity of the course delivery aligns with the element of a decentralized curriculum communicated in the literary review. In addition, interviewees expressed other examples of decentralized course delivery as influential.

"Business consulting, that was one I took last year. It's kind of in your later years, but you actually work with an industry partner to solve a problem. So that was huge for entrepreneurs."

The opportunity to participate in experiential learning and generate solutions for problems commercial entities face was thought to contribute to intrapreneurial thinking and community development. The literary review findings also supported this information.

Besides key curricular developmental components, extracurricular involvement was expressed as a promotive experience. One interviewee found that expanding on class learning was vital for pursuing entrepreneurship.

"I think definitely extracurriculars, number one, just getting beyond you're in-class learning experience, but actually going out into the community and doing all these entrepreneurial things like product development was my big one."

Volunteerism was also perceived to be influential by one of the interviewees.

"Something to meet people and, you know, sign up and do something. I think it's always good to volunteer."

This element of education possesses potential, aligning with the literary review finding that contributing to community development may influence building entrepreneurial spirit.

The university ecosystem was seen as a direct influence on many interviewees' entrepreneurial spirit. One interviewee found it the most significant factor, trumping curricular and extracurricular components.

"I will say the overall environment was more influential and inspirational than the courses or the lectures."

Multiple interviewees identified the networks they developed in university as influential in promoting their entrepreneurial behaviour. The opportunity to connect with like-minded individuals in an innovative community was repeatedly mentioned as an element of university education that benefitted them in their venture creation. One interviewee contributed the following statement.

"The best thing I did get from my education, and I think this is really important, was the connections and the main reason why I enrolled in [my program] that was actually because it was one of the harder programs to get into. And I really wanted to meet like the really brilliant, bright people. And it just so happened I had a lot of friends who are very brilliant, and they helped me out a lot with school as I was doing this business at the same time"

Connecting with like-minded individuals and developing meaningful relationships provided them with a secure social network they may feel comfortable reaching out to for valuable feedback, support, and insight.
From the perspective of the student entrepreneurs interviewed, drawing from these qualitative discoveries, education has influenced their entrepreneurial spirit and venture creation. Interviewees found that the university considerably affected their entrepreneurial venture by developing various skills and gaining invaluable experience from curricular, extracurricular, and institutional involvement.

One question encouraged interviewees to reflect on their entrepreneurial venture and offer advice to others who may be interested in pursuing entrepreneurship. A typical response was to start. Multiple interviewees expressed that individuals tend to hesitate to begin an entrepreneurial venture. Ironically, in many cases, the initiation of the enterprise proved to be a momentous moment. The inauguration of a venture may be perceived as intimidating; however, taking that first step is imperative.

Interviewees were also asked how they dealt with risk. The general behaviour towards risk was that it is purely an element of venture creation. There will always be the possibility of failure, and although some ventures could not achieve their anticipated success, it did not deter them from trying. The study participants showcased resilience and courage when explaining the presence of risk associated with entrepreneurship. Risk is to be accepted and managed diligently as well strategically.

In contrast to the elements of risk and failure, interviewees were asked to define success—some identified success as ample monetary wealth. However, two specific measures of success were communicated repeatedly; the ability to make a positive impact on others through the operation of their enterprise and the achievement of incremental growth. The anticipated notion that entrepreneurs pursue such undertakings to grow their business into large, lucrative organizations did not prove true in the interviews. Interviewees commonly expressed measured growth and the ability to benefit their clientele with an innovative product or service as factors of a successful venture. For many entrepreneurs, the most satisfying moment was seeing a particular aspect of their business evolve, for example, making their first sale or working with their first client. One entrepreneur expressed that their most satisfying moment was before the launch of their business and being aware of the growth they had made from the inception of the idea to the production of their palpable product.

"That was a super fun feeling and something that I thought was really cool just because I've been thinking about this being an app for so, so long and then finally being able to see it on my phone and functionality was definitely one of the most satisfying moments."

Each entrepreneur was asked to define success and provide an in-depth view of the aim of their entrepreneurial journey. An intriguing response communicated by one entrepreneur was that they felt defining success was limiting their ability.

"I don't really like putting a definition of success on myself because I feel like it's a bit of a limitation."

The interviews generated insightful answers from each participant, contributing to understanding student entrepreneurs and their perception of education's influence on their entrepreneurial ventures.

Reviewing the results, elements identified in the conceptual framework and components communicated in the interviews offered some resemblance, as showcased in the Venn diagram above. The aspects of university education showcased within the comparative model above are to be concluded as impactful towards entrepreneurship as identified by both the literature and the student entrepreneurs.

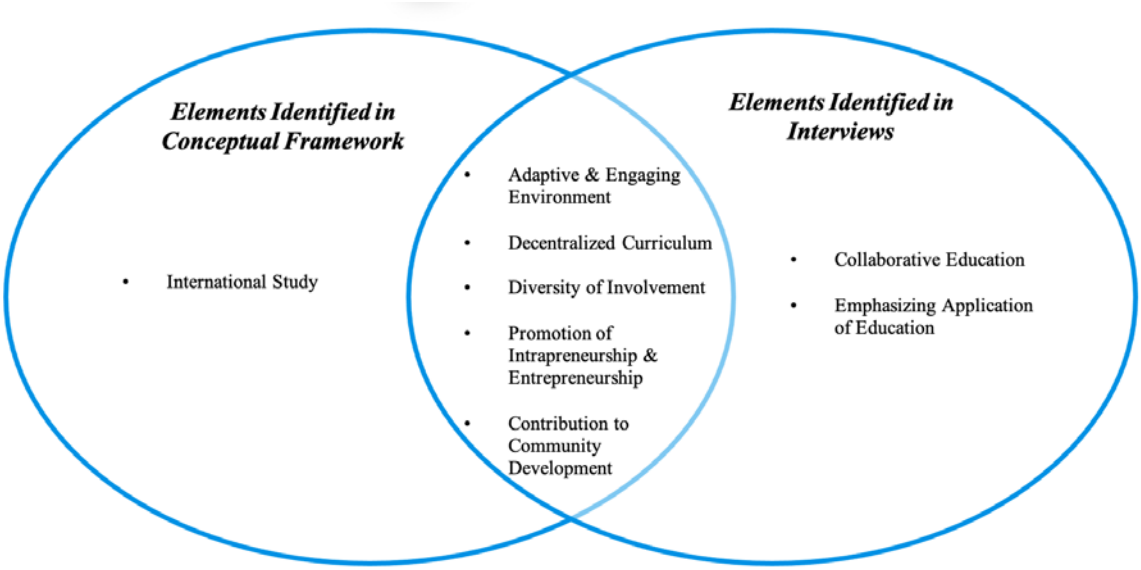


Figure 1. Comparative model of university education's impact on entrepreneurship

Education Theory

Education theory addresses the intention of education and its delivery, acquisition, and utilization. The approach revives the relationship between education and entrepreneurship by implementing active resources, such as The Hub, that are influential in initiating venture creation. The theory possesses various streams, although social learning theory is predominant in association with the relationship between education and entrepreneurship. The elements of university identified to be impactful towards students' pursuit of entrepreneurship are products of the university that students acquire through engagement with the institution. Through further development and promotion, there is an opportunity to further impact students' entrepreneurial ability. The elements instilled within the university ecosystem, communicated in the realist evaluation, relate to education theory demonstrating the ability to influence students' entrepreneurial potential. As supported by this study's findings, incorporating education theory within the university ecosystem will significantly influence entrepreneurial development and venture creation.

Recommendations

Expanding on the current relationship between education and entrepreneurship, a topic of intrigue was determining if and how education could be maximized to promote further and support entrepreneurship. Throughout the fifteen interviews, two recommendations, unidentified by the literature, were consistently communicated; integration of collaborative curriculum and the incorporation of curriculum that emphasizes the applicability of education. These recommendations can catalyze university education to achieve its full potential.

Integrating collaborative education would allow students from various disciplines to collaborate in class and develop a solution to an interdisciplinary problem. In contrast, each student draws from their specialized knowledge. The cross-discipline curriculum would allow students to work with a diverse network of students, each representing different specializations. Each student's university education would contribute to the amalgamation of knowledge possessed by the group. An interviewee in engineering expressed their input on the opportunity.

"I think that there was a big, missed opportunity with our design course that we could have easily had an interdisciplinary collaboration with. You know, we could have brought in one economics major or finance major for each team and that could have been part of you know, an assignment for one of their classes where they collaborate with us for a week. And they do that portion. We understand and we learn together, you know, and because really entrepreneurship is collaboration."

This concept is intriguing as it offers students with experiential learning transferable to cross-functional teams commonly utilized in industry settings. Maximizing each member's unique contribution to the team's success would allow students to learn from one another and contribute to group camaraderie.

Education is commonly perceived as the bridge to a career. The acquisition of knowledge and specialized skills in university benefits graduates' employability. However, adding knowledge and technical skills may not be perceived as transferable to entrepreneurial venture creation. Various interviewees communicated that they wished the possibility of entrepreneurship was further promoted within their university curriculum. One interviewee believes that had more students been made aware of entrepreneurship due to their acquired skills, they would have explored the opportunity.

"I'd never been exposed to entrepreneurship, like in any realm of my life. So, it was very interesting coming from like a zero-knowledge background."

The opportunity to be integrated into an intellectual community while earning education concentrated on individual interests served as an innovative environment for entrepreneurs. Promoting entrepreneurship stemming from skills developed and knowledge learnt in university will allow students to create creative competencies helping both entrepreneurs and intrapreneurs. Therefore, incorporating a curriculum to emphasize the applicability of their education was seminal. Interviewees expressed the importance of experiencing failure; therefore, incorporating assessments focusing on experiential learning was beneficial. Multiple interviewees addressed the prioritization of learning rather than testing.

"I think, to the experiential learning that you think is so important that you identify it to be so important because it should be offering feedback on how they're learning and acquiring these new skills, more so than testing them on their knowledge of it."

A discussed experiential learning method was to allow students to execute a project or systematically work to solve a problem over the semester. Students would be assessed on what they learned over their assignment and what they gained from their experience rather than only the results of their work. This concept offers an alternative assessment method while providing students with the opportunity to embrace the process and be daring with their solutions. The key here is that they will not be penalized for taking chances. Also, it should be noted that some non-business participants shared their desire for business and entrepreneurial courses to be incorporated into their curriculum. They felt strongly that this addition would have been beneficial to their venture. Taking more relevant classes for individual pursuits was communicated as being favourable.The recommendations offered by the interviewees present a compelling position to be thoughtfully considered as they are identified by actual individuals who are pursuing entrepreneurship while attending university.

Discussion

Assessing similarities between the conceptual model produced and the findings of the student entrepreneur interviews, specific elements of university education were found to be impactful towards the individual pursuit of entrepreneurship. Although they were not communicated in the interviews, international studies were identified within the literature. Despite not being evident in the discussions, there is further opportunity to assess its impact on the development of entrepreneurial ability. Breznitz and Zhang (2019) and Krabel (2018) highlight the diverse opportunities associated with studying abroad that contribute to the development of entrepreneurs. In addition, it is to be identified that none of the interviewees had studied abroad during their university experience; therefore, it cannot be concluded as irrelevant.

The demonstrated overlap between elements identified in the conceptual framework and the student entrepreneur interviews justifies the findings' relevancy. The study's contribution is the elements communicated in the discussions unspecified within the conceptual framework, collaborative education and emphasizing the application of education. Collaborative education is an opportunity to diversify students' knowledge base and skill set within interdisciplinary studies. This allows students to engage with students of different disciplines, problem-solve collaboratively, and uniquely contribute to the success of a group. Relating to entrepreneurship, this experience may promote students' ability to embark on new challenges and embrace collaboration with a broad knowledge base. Further exploration of the concept is encouraged to assess its degree of influence.

Furthermore, highlighting the relevancy of knowledge provided to students was identified as influential to students' entrepreneurial development. Facilitating the identification of opportunity and utilization of learning

acquired in university in developing an entrepreneurial undertaking was impactful for students engaging in entrepreneurship. Being able to recognize their ability and act upon it was pivotal. Therefore, university education should provide students with the tools to succeed and demonstrate how to best use their acquired resources.

Conclusion

This study aimed to analyze the relationship between education and entrepreneurship, investigate the influence university education has on entrepreneurship, and examine how education may be maximized to support entrepreneurial undertakings. There was direct alignment between literature and interviewee responses identifying the promotive influence of an adapting and engaging university environment, decentralized curriculum, diversity of involvement, promotion of intrapreneurship and entrepreneurship, and contributing to community development. This justifies the generated findings.

As demonstrated by the results generated, it is to be concluded that university education is an influential element of entrepreneurial venture creation. There is immense potential in the relationship between education and entrepreneurship; however, it is a matter of institutions acting on the opportunity and adapting. Universities have the unique opportunity to be the leading facilitators of venture creation through entrepreneurship education while at the same time promoting the commercialization of innovative enterprises.

An intriguing question to expand on in the findings of this paper is whether or not such influential elements may help create successful enterprises, providing entrepreneurs with the ability to achieve longevity and sustained prosperity. Education is a continuous process. Therefore, there is also potential that entrepreneurs would benefit from constant learning of innovative practices. In addition, although the international study was not identified as an influential element in the qualitative research, perhaps there is evidence to determine how international study contributes to entrepreneurship and in what capacity.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

Acknowledgements or Notes

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Exploring the Proficiency of Virtual Learning Technologies for Language Learning

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Abstract: The COVID'19 Pandemic created a major shift in the education delivery system, from the traditional classroom to E-learning for schools and universities. From the many subjects, language learning has been pursued by students and individuals as recreation. People have adopted various online mediums for learning their preferred languages. Educational institutes have embraced applications like Microsoft Teams and Zoom to maintain an effective learning environment for the students. With the development of distance learning technologies, examining the effectiveness of these resources used for teaching has sparked an interest in researchers and educators. This present study seeks to (a) Understand student's perception towards e-learning languages via video conferencing platforms and (b) Identify pros and cons of distance learning technology for teaching dialects. For the purpose of this research, a mixed method research design was employed through an online questionnaire designed for school and university students. This study also carefully reviews existing literature on various aspects of language and distance learning. This research aims to establish concrete evidence to support online learning of languages as a new teaching approach. As a solution, this paper encompasses a conceptual framework that is an AI-based prototype, an extension for video conferencing platforms and learning management systems. Future researchers should explore solutions for resolving challenges shared through this paper.

Keywords: Online learning, Languages, Distance learning, Videoconferencing, Effectiveness

Introduction

During the pandemic era, the world has been technologically driven. Friends and family interacting over the internet, people attending meetings virtually and students continuing learning through video conferencing. The advancements in technology over the years has helped schools and universities create open, interactive, and flexible environment for students for e-learning (Baber, 2020). The shift from traditional classroom settings was initiated through use of different video conferencing platforms, online material and dependence on virtual resources. This sudden shift has increased the usage of video conferencing platforms in every household and organization. The common applications include zoom, Microsoft teams, blackboard, google meet amongst the many others (Kumar et al., 2020).

Over 6 million students around the world are currently enrolled in online courses and learning as part of their higher education as reported by the education ministry in 2020. The digitization of the education sector allows students to online entirely while being able to watch lectures, socialize with friends and participate in specialized discussions (Li et al., 2020). Research suggests 85% of students recommend online learning as being

better than traditional learning methods. The virtual sphere of education offers students the opportunity to learn through various resources (e-books, videos, journals) and learn through their preferred learning style (Abrami et al., 2011).

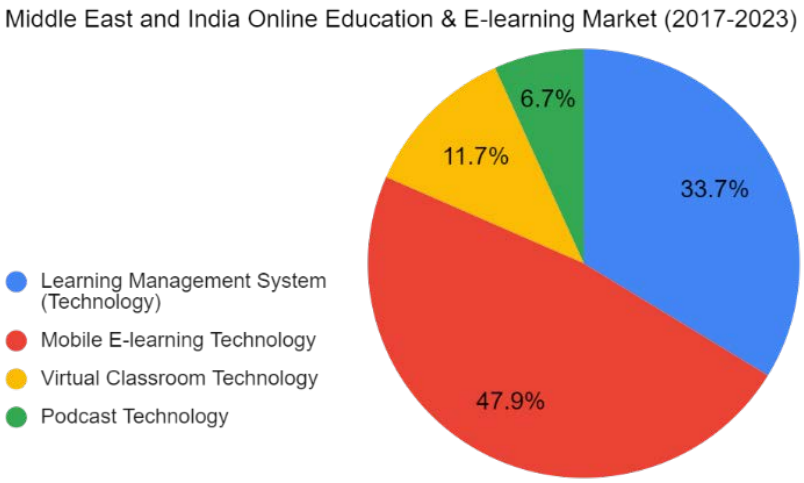


Figure 1. E-learning market in Middle East and India trends

In the entire repertoire of the education system, learning of languages has a crucial hold. From being the mode of communication and interaction, language learning has taken over as new skills and hobbies to be developed. Various languages being learnt are French, German, Arabic, Spanish and many more. Fluent communication in English is definitely what organizations are looking for. Yet, the ever-evolving world of advancements now values the knowledge of different languages beyond English and the local languages. For example, job requirements posts contain the need for certain languages. Hence, the learning of languages is only increasing with value and need (Hogan-Brun, 2017).

Additionally, the pandemic has not posed as a roadblock for those interested in learning languages. People continued to strive for the same using various video conferencing platforms. Faculties and instructors are using different methods to teach their students in the best possible way (White, 2017). Use of videos, blackboard and whiteboard, online quizzes etc. are incorporated to train and test students, continuing the education of languages. This is not to say that language learning is new to the online medium of video conferencing platforms. The same has been adopted before the pandemic by sites like Duolingo, Coursera etc. However, during the year, the use of online mediums has seen an efficient increase (Motzo & Proudfoot, 2017).

Analyzing current trends in education and studies conducted in the past show a substantial gap in language learning and delivery through online methods. This research has highlighted the objectives to be achieved: (a) Understand student's perception towards e-learning languages via video conferencing platforms and (b) Identify pros and cons of distance learning technology for teaching dialects. The pandemic has caused a major shift in the teaching pedagogy for students around the world at different levels, making it crucial to understand the effectiveness of the online teaching method (Pokhrel & Chhetri, 2021). Considering the limitations of previous research, the following study has collected and analyzed ample of data through review of literature and a reliable survey with a substantial sample of university and school students from India and Middle East.

Literature Review

From the start of our education system, schools and universities have followed the traditional method of teaching students, in a classroom with direct instructions given by the teacher. Through this method, the teachers are responsible for providing adequate resources and clear instructions to the students. However, in the past few years a new method of teaching has gained popularity known as online or virtual mode. Studies suggest the virtual mode has provided a strong alternate to the traditional instructions provided in educational sectors. Virtual learning is conducted through video conferencing platforms and online resources shared by the facilitator (Broadbent, 2017).

Research analysing current trends of online learning highlighted that various synchronous and asynchronous modes both can be successfully used to provide information to students, facilitate interaction with the teacher and peers for a better learning experience (Faulconer et al., 2018). Another study explained, synchronous methods like instant messaging or Skype with and without voice or video for e-learning significantly enhanced student's skill acquisition and achievement in the given subject. Virtual learning has found to be provided through video conferencing platforms like, teams, zoom etc; online open courses; live videos and tutorials (Kalpana R & Mahajan, 2018).

A comparative study was conducted for students in an introductory physics course and discovered that students taking online learning had a significantly lower failure rate compared to students in face-to-face classrooms and online students also had a lower withdrawal rate compared to other modes (Perez-Navarro et al., 2021). Research studying the effectiveness of 3 courses delivered online versus face-to-face reported that students developed a better understanding of the course, were engaged and satisfied more with their interaction and had significantly higher final grades through the online courses (Soffer & Nachmias, 2018). Online courses for different subjects were found to be as effective as or more effective than face-to-face delivery.

This new, enhanced mode of education delivery was extremely beneficial for schools and universities during the pandemic, as communication shifted to video conferencing platforms, learning became easier. A 2021 study highlighted that students voiced their dissatisfaction with video-conferencing platforms due to lack of training of teachers, however their interaction with them and overall performance during online classes was enhanced (Mpungose, 2021). A paper analysing the effectiveness of remote learning and student's perceived satisfaction through a survey reported that many different factors like, engagement in classroom, distractions, interaction during live discussions and understanding of the materials impact the level of satisfaction of students (Muthuprasad et al., 2021).

Another study found that online learning environments promote student- content interaction and online learning self-efficacy which directly related with increased student satisfaction and positive learning outcomes (Alqurashi, 2019). A 2016 study highlighted key factors correlating to promote education and willingness of students to participate which includes, interaction with tutor, use of various resources and tools, assessments from different applications for a better learning experience (Bolliger, 2004).

Few researchers have identified how the online learning system benefits students as well as teachers by highlighting their experiences and suggesting improvements. A recent study suggested providing distance education is a technology-oriented process, the quality and interaction in online classes were perceived to be important determinants of learning success by teachers. Majority of the instructors recommended better ICT training for them in the future for virtual learning and 87% of respondents consider online education as an efficient alternative in situations like the pandemic (Lee et al., 2021).

Establishing the high use of online mediums for education, we now move on to understand the implications of the same for language learning. A study that analysed the effectiveness of online language learning states that students preferred being tutored by an instructor rather than an individual online class. In other words, they prefer traditional classroom settings over online language learning. Moreover, the study also investigated the mediums preferred for online language learning and found reference books in digital formats to be the most useful, followed by videos, emails and online discussion boards (Akyildiz, 2020). Video conferencing platforms were not preferable as they are usually used for asynchronous learning. Partaking in synchronous mode of education, the digital books, emails and discussion boards not only assisted with learning but also established a connection between their tutors and peers (Mishra et al., 2020).

Another research analysed the main tools that are effective for online language learning. The terminology of 'tutoring call' refers to grammar exercises that are done mechanically via technology. The study shows how students appreciated an individually oriented tutorial call over web applications like wikis and blogs. Websites like Quia and Hot potatoes help create and customize language exercises for a better learning experience. Other programs like Tell Me More from Aura log aids in learning pronunciations as well as exercises (Blake, 2008).

The current trends of the education system have seen a high increase of online mediums, adopted by almost every educational institution due to the covid pandemic 2019. Social distancing and lockdowns have brought learning to online mediums and made it compulsory. A study that involved university students undertook a focus group discussion found learning to be sans interaction and communication, additional load of assignments in place of examinations and adding on to the existing psychological concerns of anxiety and depression. However, it did come with its sets of pros like flexibility and online exams. The focus group discussion also

highlighted students' suggestions to make online learning a better experience. Those include changes in teachers' teaching style, their perspective as educators, and assessment patterns (Jabeen & Thomas, 2015).
With similar findings, another study highlights the need for the curriculum to develop and adapt in a way that reflects the perceivable changes in content knowledge and learning experiences of students, to enable them to be problem solvers and critical thinkers and adjust well to the ever developing 21st century (Mishra et al., 2020). Language learning and bilingual skills are an important aspect for getting good job opportunities.

An interesting research investigated the effectiveness of online resources for e-learning of languages during the pandemic. Participants preferred the use of tools like PowerPoint presentations because of its familiarity during traditional classroom environments. On the flip side, the least preferred resource was individualized feedback as it was usually delayed and ineffective (Maican & Cocorada, 2021). Another study highlights the effectiveness of video conferencing platforms that allows for more efficient communication instead of asynchronous learning. Aspects of microphone, video camera and chatting gave way for proper interaction and contributions. Although few concerns that arose are poor Wi-Fi connectivity, unavailable microphone and camera and lack of experience and knowledge of using technology. For post-pandemic scenarios, most participants preferred a blended setup (Mukhtar et al., 2020).

In terms of the psychological well-being of students while partaking in online language learning, the students of the study reported feeling positive, negative and mixed emotions. Negative emotions arose due to lack of interaction with peers and mentors along with the feeling that their developing language skills could be hampered. Feelings like shame and concern were reported because of poor performance and progress. Issues like stress, migraines and attention concerns were also found. Positive emotions include enjoyment in online learning. However, a typical emotional stand was feeling mixed emotions (Mukhtar et al., 2020).

While the shift from traditional to online technological education is prominent in its need and urgency for change, they pose a set of advantages and disadvantages for students and teachers. The most common plus-points are flexibility, accessibility and remote learning, an easy way for students and teachers to interact in the comforts of their home. Additionally, as opposed to traditional learning which resorts to spoon-feeding of information, online education encourages students-centred learning (Charan, 2019).

Specific to the advantages of online language learning, the afore-mentioned studies have mentioned the same in a dissection. To name a few, 'tutoring call' made the learning process not only helpful and easy but was also fun and enjoyable. Moreover, online lessons can be replayed for revision and repetition for clearing doubts and better understanding. For those who prefer individual learning and are self-motivated, this autonomy will assist in developing those language skills. Also, from digital reads and files to websites and applications, technology enables learning via various methods that targets reading, listening, writing and speaking domains of language learning (Bakhmat et al., 2021).

Reports suggested some drawbacks of using e-learning platforms for education, however most studied offered applicable solutions for the difficulties faced by students and teachers as well. A study completed with lecturers in Ukraine highlighted that teacher's most common problems were technical and linked with network connections, hardware for video and audio and lack of knowledge about proper technology use (Baber, 2020). A cross-country study between Korea and India reported student's perception for online education, for which drawbacks were lack of academic motivation, lack of time and attention with teacher and social isolation from peers (Gilbert, 2015).

Methodology

A qualitative research design was implemented in this study through an online survey developed with semi-structured questions for students. The questionnaire was titled 'Language Learning and Video Conferencing Platforms' and gathered data on student's perception of online learning during the pandemic using open-ended questions and fixed option questions. The simple random sampling method was deployed for the purpose of data collection. A total sample of 405 students from High School and University in India and Middle East completed the questionnaire. The inclusion criteria were students who have learnt any language during the last few months through video conferencing platforms. Informed consent was obtained from the sample and data was kept confidential. Data was analyzed and presented as graphical illustrations.

Results and Discussion

A questionnaire titled 'Language Learning through Video Conferencing Platforms' was circulated in schools and universities via google form and data was collected for this study. The survey was conducted to achieve the first objective of this research 'Understanding student's perception towards e-learning languages via video conferencing platforms.' Four Hundred and Five students at high school (43.5%) and university (54.5%) in India and United Arab Emirates responded to the survey.

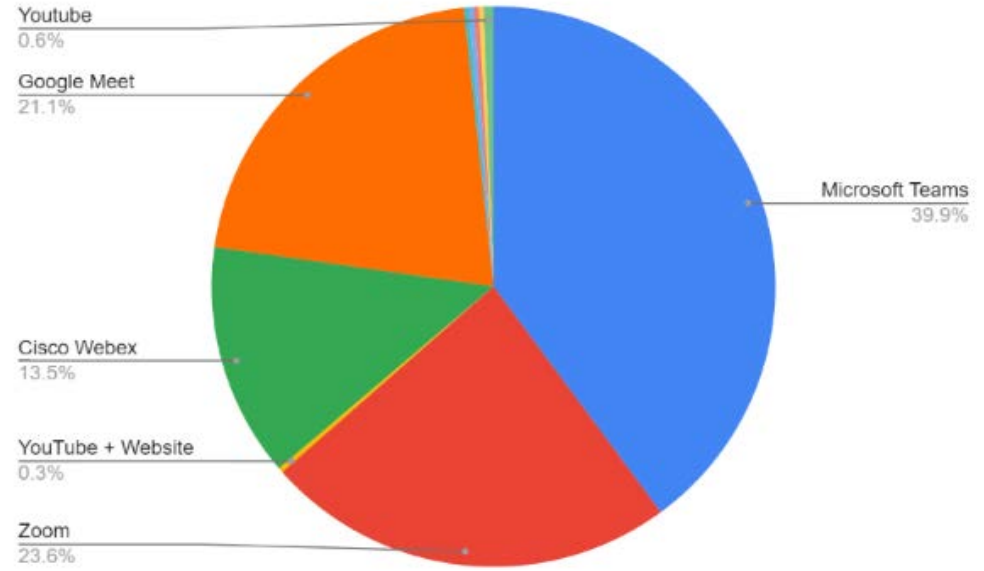


Chart 1. Which video conferencing platform have you used for distance learning during the pandemic?

Chart 1 shows the usage of different video conferencing platforms by school and university students for continuation of their education during the pandemic. The most selected application is Microsoft Teams (39.9%), followed by Zoom (23.6%) and Google Meet (21.1%).

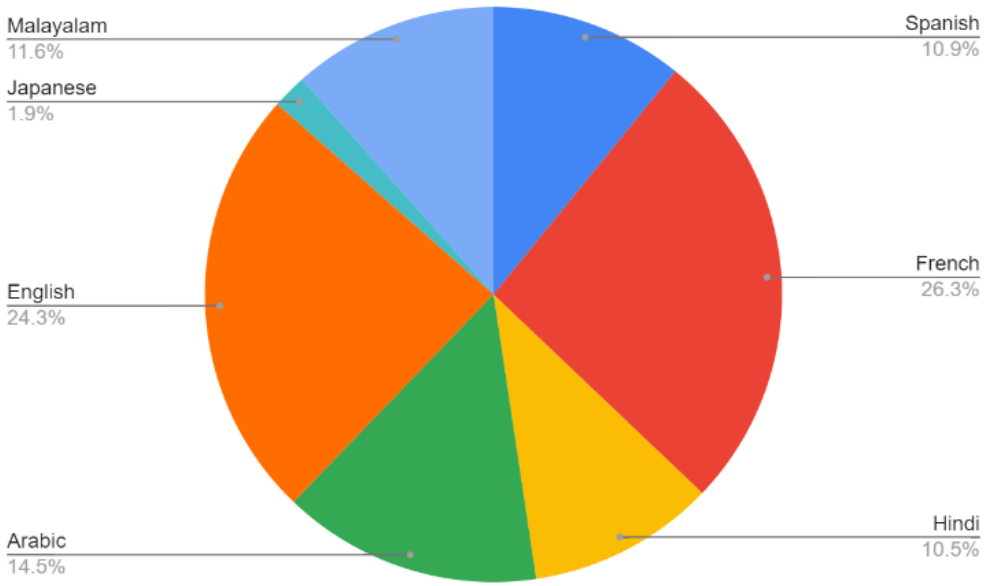
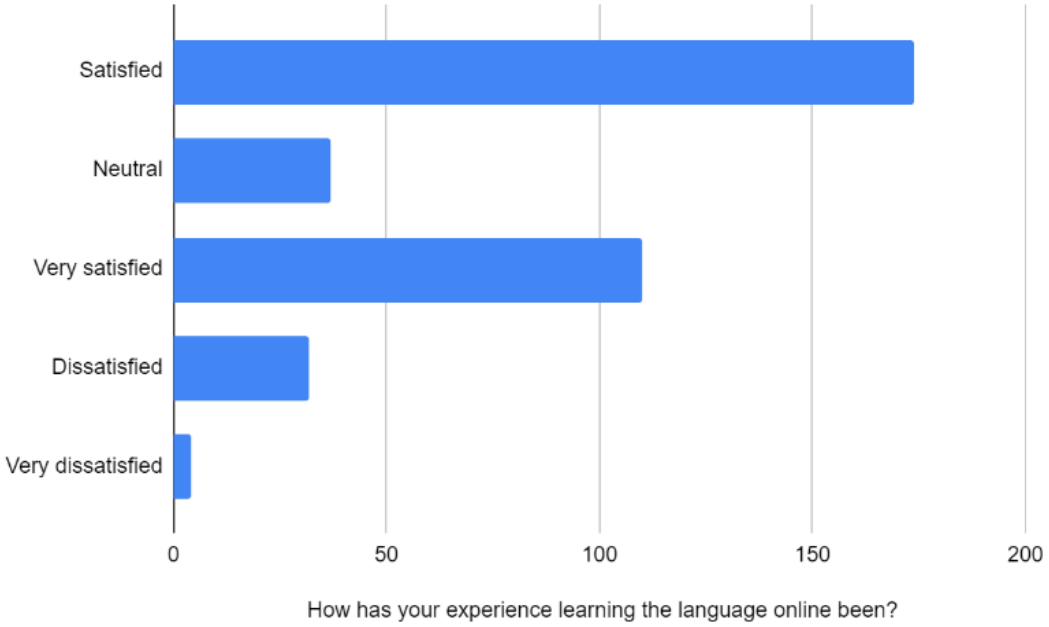


Chart 2. What languages have you learnt through e-learning?



Graph 1. How has your experience learning the language online been?

The above chart gives an insight into the most commonly learnt languages during the pandemic via online means. Majority of the participants learnt French (26.3%). Following that is English (24.3%) and Arabic (14.5%).

Students were asked to rate their experience with learning languages through online applications or video-conferencing platforms. Most participants felt 'satisfied' with their experience, as shown in graph 2.

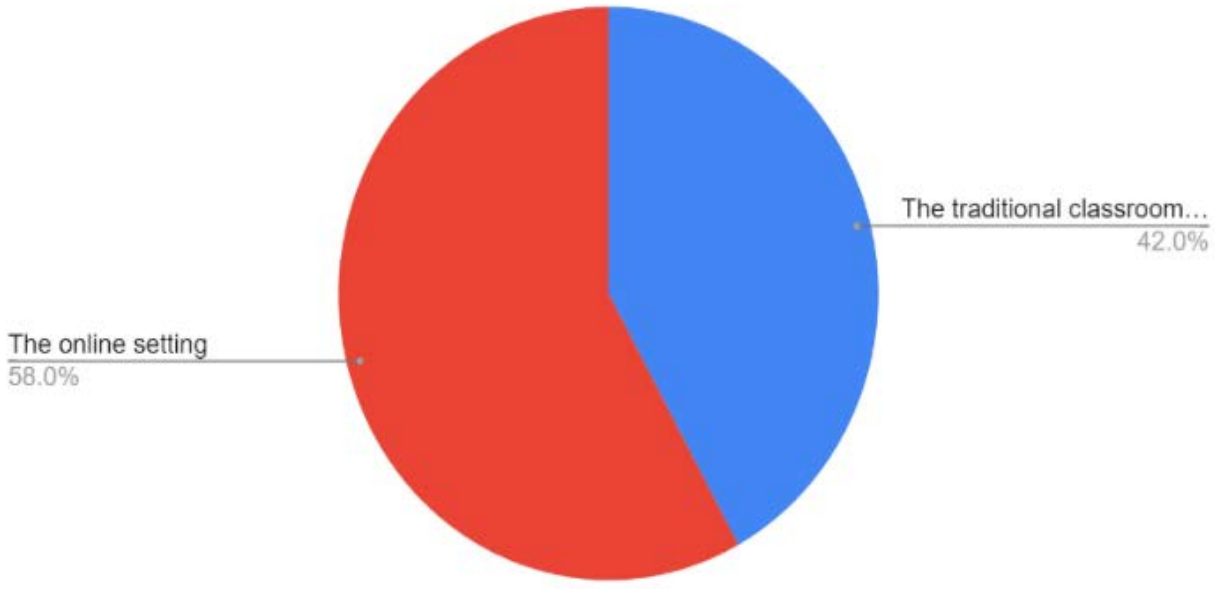
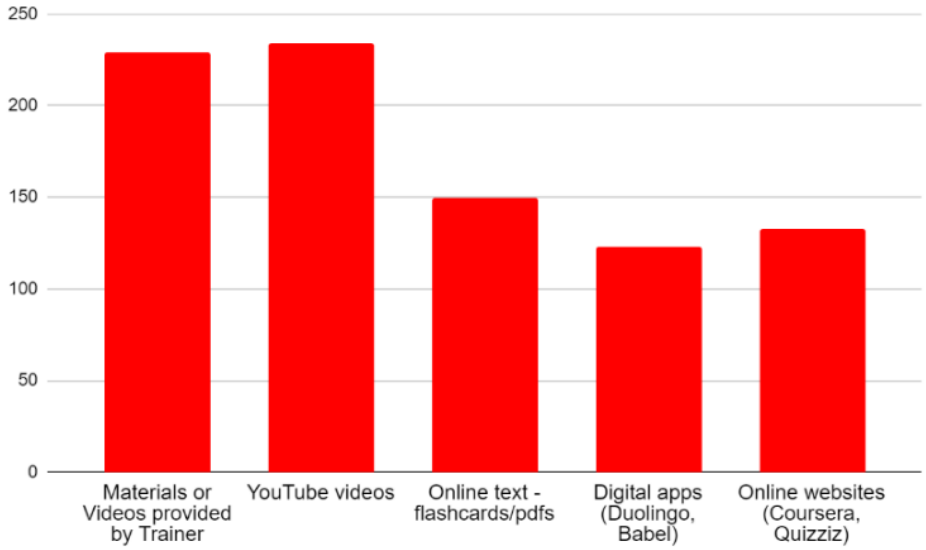


Chart 3. In a post-pandemic setting, what method would you prefer for language learning?

Although the shift from traditional to online education was sudden, research suggests the adaptation has been a smooth process for students and educators. Hence, as demonstrated in the above chart, 58% participants choose to continue with the online medium of language learning in a post-pandemic world.



Graph 2. What kind of tools or resources have you used as part of your language learning experience?

Educators have utilized various tools and resources to enhance student's learning during the shift to virtual platforms. Individuals have also taken responsibility for improving the language learning process by using online applications and websites. To support their online language learning, additional tools were utilized by learners including YouTube videos and the materials provided by their instructors. The same is represented in the above chart.

Students were asked open ended question for the reasons why they prefer online learning via video conferencing platforms. The following diagram represents the major themes of the responses gives by the students. The opportunity to learn at their own pace, flexibility with time and option to view recordings later were found to be the most shared reasons.

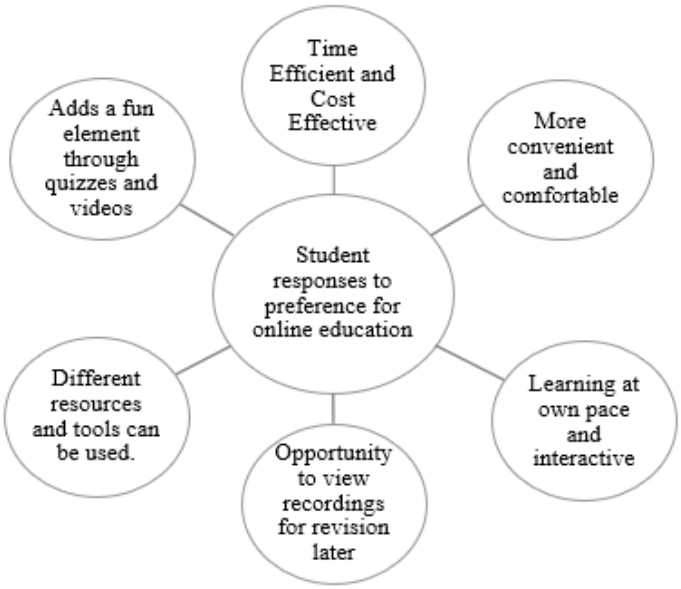


Figure 2. Representation of student's response to their reason for preference of online education

To summarize, the responses shared by students highlight an overall positive experience with language learning online during the pandemic. A blended learning approach with inclusion of more virtual tools and resources needs to be implemented in the post-pandemic learning environment for other subjects and languages (Jones & Sharma, 2020). Overall, students have had a satisfactory encounter with the shift in learning platforms and adjusted to learning virtually.

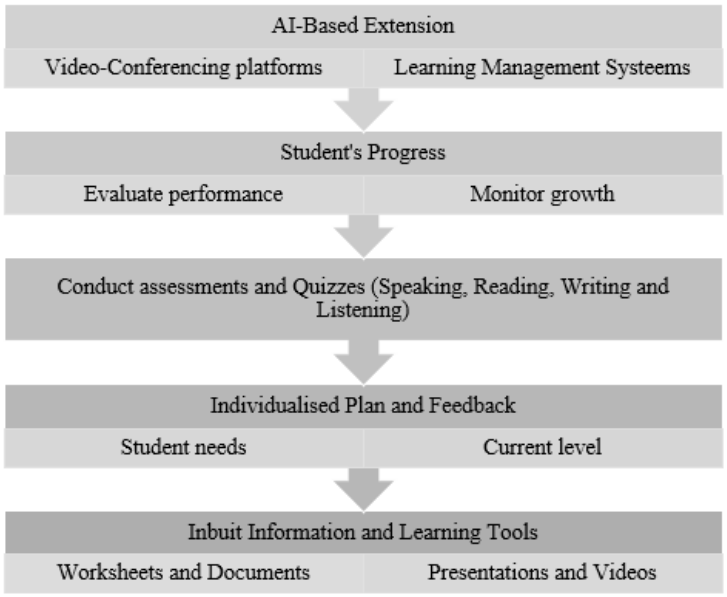


Figure 3. AI extension prototype for enhancing student's language e-learning experience.

From analyzing review and data collected through the survey, it was evident that student's faced certain challenges that limited their online language learning experience. As part of this study, we present a conceptual framework based on an AI enabled extension for learning management systems and video conferencing platforms used in educational institutions. This framework takes into consideration the concerns shared by students and can be further developed by AI developers and software engineers.

Conclusion

The aim of this research was to analyze the effectiveness of video conferencing platforms and other online mediums for the learning of languages. From the review of literature and the data collected via the survey conducted, results clearly demonstrate the proficiency of online language learning. This statement is supported by quite a strong finding from the survey conducted where 58% of participants would prefer the online mode for learning of languages in a post-pandemic world. Additionally, findings show the learners' experience to be 'satisfied' with language e-learning. Although there were challenges of lack of clarity and loss of motivation and interest along with the preference for continued e-learning, it indicates the positive outcomes of online language education. However, an all-in-one solution for a smooth process of language e-learning is not yet found, paving a path for the AI-based extension depicted in the form of a conceptual framework.

Future recommendations of this study would suggest educators to evaluate the advantages and drawbacks to improve the language learning environment for students at different levels. Researchers and software specialists should practically apply the ideas shared through the framework to create an expert application for education. The following study, however, does have certain limitations that need to be considered by researchers pursuing similar objectives in the future. The research utilized the questionnaire method to gather the required data and did not consider any qualitative approaches. Responses from the survey were limited to students from India and the UAE. Hence, future studies should consider samples from other regions and different methodologies. A longitudinal or comparative study can be conducted with similar objectives to understand the long-term impact of online learning student's performance and ability to apply the language. The education industry has seen a massive shift during the pandemic, the learning environment has changed for students, and it is crucial to take technical steps towards enhancing their experience in the future.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

Acknowledgements or Notes

This article was presented as an oral presentation at the International Conference on Research in Education and Social Sciences (www.icress.net) conference held in Baku/Azerbaijan on July 01-04, 2022.

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Determining the Problems Experienced by Undergraduate Students in Digital Courses in the Distance Education Process

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Abstract: In today's developing and changing world educational activities which are an important factor in our social life like many human activities, have switched to the distance learning model when face-to-face teaching is not appropriate. Distance education is an interdisciplinary field that tries to eliminate the limitations between learning, teaching, and learning resources, and use existing technology with a pragmatist approach to achieve this. With the distance education carried out during the Covid-19 period, students had to attend classes from their own homes or in other venues that allow participation in the lesson. Although distance education removes the restriction of space and allows the lessons to be watched again, in addition to these advantages, distance education has also brought some problems. The inability of every teacher to use technology with the same efficiency, the teachers' inability to convey the content to students, the inability to understand the formulas in numerical lessons, the inability to solve enough problems to reinforce the subject, the inability to carry out experiments in a real laboratory environment, the inability to prepare exams in a classroom environment are examples of these problems (Kiremit et al., 2021). This study will try to determine problems experienced by undergraduate students in digital courses during the distance education process. For this purpose, the study group consisted of undergraduate students studying the department of science teaching, who learned numerical courses such as mathematics, chemistry, and physics through distance education for about four semesters. The data were obtained with the Distance Education Scale developed by Kiremit et al. (2021). The analysis of data was analyzed with the help of the SPSS 18 package program.

Keywords: Distance education, Education, Science education, Undergraduate student

Introduction

Covid-19, which first appeared in Wuhan, China in December 2019, spread rapidly all over the world in a short time and was declared a pandemic by the World Health Organization. With the declaration of a pandemic, significant changes have occurred in all areas of life, especially in health, economy, education, and social activities (Bakioğlu & Cevik, 2020; Gordy et al., 2020). Due to the rapidly spreading pandemic all over the world, some measures have been taken, schools have been taken around the world to create social distance, especially to ensure that young people stay at home, and to prevent contagion, and many students have been adversely affected by this process (Bulut & Esitti, 2020; Pinar & Donel Akgul, 2020). Until the epidemic level in the world decreases or until the epidemic end, it has been decided that the education should be done by distance education, not face-to-face. After the first Covid-19 case in Turkey was seen on March 11, 2020, various measures were taken, and the distance education process was started instead of face-to-face education in Turkey as in the World (Ozdoğan & Berkant, 2020). Distance education is a concept that can be defined very broadly and in various ways, and in the most general sense, it is an education system where the learner and the trainer are not physically in the same place and learning-teaching activities are carried out through the active use of information and communication technologies (Balaban & Hanbay Tiryaki, 2021; Ozdoğan & Berkant, 2020).

The main purpose of distance education is to provide education and training opportunities to people with systems that can keep up with the developing technology and contribute to human education without being affected by time and space, by removing the time and geographical barriers that disrupt education (Ozbay, 2015). With the distance education type, education has been given in the world and Turkey for many years. Distance education has many advantages such as providing equal opportunities for students, providing a rich educational environment, allowing students to progress at their own pace, giving the individual responsibility for learning, lifelong learning, and low cost (Akyurek, 2020; Klisowska et all., 2021). In addition, distance education has many disadvantages such as not providing face-to-face interaction, preventing students from socializing, some courses not suitable for distance education, not benefiting enough from practical courses, not being effective in performing behaviors related to skills and attitudes, difficulty in getting instant feedback and addiction to communication technologies (Kurt & Aydin, 2021; Akyurek, 2020). As a result, distance education is important in terms of accessing education in earthquakes, epidemics, and similar extraordinary situations. University-level students were taking common compulsory courses such as Ataturk's Principles and Revolution History, English and Turkish language with distance education before the epidemic, a rapid transition to distance education took place in all courses, and this brought various problems, especially in some courses. This study aims to determine the problems experienced by pre-service science teachers who were educated by distance education during the pandemic process, in numerical lessons during the distance education process. It can be ensured that the existing learning deficiencies in students are eliminated and that learning deficiencies that may arise in resuming distance education in similar emergencies encountered in the coming period can be prevented. For this purpose, the study group consisted of undergraduate students studying in the department of science teaching, who learned numerical courses such as mathematics, chemistry, and physics through distance education. The data were obtained with the Distance Education Scale developed by Kiremit et al. (2021).

Method

In this study, which was conducted to determine the problems experienced by prospective teachers in numerical lessons during the distance education process, the case study model was used. Creswell (2002) defines case study is a problem to be studied, which will reveal an in-depth understanding of a "case" or bounded system, which involves understanding an event, activity, process, or one or more individuals (VanWynsberghe & Khan, 2007). For this purpose, the study group consisted of undergraduate students studying the department of science teaching, who learned numerical courses such as mathematics, chemistry, and physics through distance education for about four semesters. The data were obtained with the Distance Education Scale developed by Kiremit et al. (2021) and interview form consisting of open-ended questions. The data obtained as a result of the research were analyzed using two types of analysis methods. First, the results obtained from the scale were analyzed with the t test using the SPSS package program, and then the answers given by the pre-service teachers to the interview form were analyzed with the descriptive analysis technique. The purpose of using the interview form in the study to support the quantitative data obtained from the scale. Semi-structured interview forms offer the opportunity to ask in-depth questions about the subject studied, and to make the situation more explanatory by asking questions again if the answer is incomplete or unclear (Cepni, 2009).

Data Collection Tools

In this study, data were collected using two types of tools. Firstly, the distance education scale developed by Kiremit et al. (2021) was used in order to determine the problems experienced by pre-service teachers in digital courses during the distance education process. The scale consists of 19 items and 3 dimensions in total. Its dimensions are expressed as questions, teachers and environments. There are 3 items in the question dimension, 5 items under the teacher dimension, and 11 items under the environment dimension. The scale is a 5-point Likert-type scale scaled as strongly disagree (1), disagree (2), undecided (3), agree (4), and completely agree (5). The researchers who developed the scale stated the Cronbach Alpha internal consistency coefficient of the scale as 0.92. The Cronbach Alpha internal consistency coefficient calculated for this study was 0.84. There is no reverse item in the scale. A high score from this scale indicates the problem experienced in the distance education process.

Then, an interview form obtained from open-ended questions created by the researchers was used in order to support the data obtained from this scale and to identify other problems of students, if any. After the semi-structured opinion form was created, the opinions of 2 experts were taken, then the parts that were not understood in the questions were updated and given their final form. The opinion form consists of 4 open-ended questions and approximately 20 minutes were given to the pre-service teachers to answer. The data obtained

from the semi-structured opinion form were analyzed by creating separate codes by two researchers and then tabulated under common codes with consensus. For the reliability of the qualitative data, the Miles and Huberman (1994) reliability formula (Reliability = Consensus / (Agreement + Disagreement)) was used and the agreement rate among the coders was found to be 87.9 %.

Findings

1. The Normality Test Results of the Data of the Scale for the problems experienced in digital courses in distance education.

Table 1. Normality values of the scale of problems experienced in distance education

	N	Maximum	Minimum	Ss	Kurtosis	Skewness
Scale	91	5	1	0.51	1.45	-0.69

For a likert-type scale to be considered normal, the kurtosis and skewness values should be between 2 and -2 (Joreskog, 1996). According to the results of the normality test analysis of the scaleused in this study, the skewness value was found to be 1.45, and the kurtosis value was -0.69. In otherwords, the data of there search show a normal distribution.

2. t-test Values Regarding the Difference Between the Averages of Problems Experienced in Distance Education Process and the Gender of the Students

Table 2. t-test values of the difference between the gender of the students and the averages of problems experienced in distance education process

Dimensions of thescale	Gender	N	X	p
Insufficient Number of Solved Questions	Female	76	3.53	0.88
	Male	15	3.44	
Teacher	Female	76	3.32	
	Male	15	3.24	0.96
Ambient	Female	76	3.70	
	Male	15	3.65	0.61

According to Table 2, no significant difference between gender of students' was found in terms of the insufficient of the number of solved questions (p=0.88), teacher (p=0.96) and ambient (p=0.61) dimensions (p>0.05).

3. t-test Values Regarding the Difference Between theAverages of Problems Experienced in Distance Education Process and the Grade Level of the Students

Table 3. t-test values of the difference between the grade level of the students and the averages of problems experienced in distance education process

Dimensions of thescale	Gender	N	X	p
Insufficient Number of Solved Questions	2. Class	44	3.33	0.004
	3. Class	47	3.68	
Teacher	2. Class	44	3.22	
	3. Class	47	3.39	0.36
Ambient	2. Class	44	3.65	
	3. Class	47	3.73	0.43

According to Table 3, there is a significant difference between the grade level of the students and the insufficient of the number of solved questions (p=0.004). In the dimension of the insufficient of the number of solved questions, 3rd grade students (X=3.68) have more problems than 2nd grade students (X=3.33). There is no significant difference between the grade level of the students and the average score of the teachers (p=0.36).

Again, there is no significant difference between the students' grade level and the mean score of the environment (p=0.43).

4. Analysis of the Answers of the Students to the Interview Questions Regarding the Problems Experienced by the Students in the Distance Education Process

Table 4.1. Analysis of students' responses to the question "which course did you have the most problems with"?

Course	N	%
Physics	58	36.8
Chemical	38	24
Biology	14	8.6
Maths	28	17.8
All lessons	5	3.2
Quantitative Courses	6	3.9
Field / Education Courses	9	5.7
Total	158	100

According to the percentile distribution of the analysis results presented in Table 4.1, it is seen that the course in which the students have the most problems is physics with 36.8%. Again, according to Table 4.1, it is seen that the courses in which the students have the least problems in the distance education process are the field/education courses with 9%.

Table 4.2. Analysis of the responses of the students to the question "what is there a son for your having problems in this course?"

Cause of Problem	Sub-Causes	N
Teacher-related problems	Insufficient use of technology by the teacher	13
	Lack of communication	1
	Not effectively conducting the lesson	5
Distance Education Tool/Technology/Internet Based Problems	The shortcomings of the application chosen for the course	5
	Internet connection difficulty	10
Student-related problems	Not attending class	2
	Not solving enough questions	3
Media related issues	Inability to concentrate at home	1
	Disciplinary issue	1
Time and Economy related problems	Limited time	10
	Giving the questions as homework due to insufficient time for problem solving	3
	Internet fee is too high	1
Lesson related problems	Intensive course content	2
	Teaching the quantitave course as a qualitative course	1

According to Table 4.2., the most common reasons why students have problems during the distance education process are the inadequacy of the teacher's use of technology, not attending the course, limited time and the problem of internet connection. Again, according to table 4.2, the problems that students talk less about in the distance education process are; lack of communication, inability to concentrate at home, disciplinary issue, internet fee is too high, teaching the quantitave course as a qualitative course.

Results and Discussion

At the end of the study conducted to determine the problems experienced by university students in numerical courses during the distance education process, it was concluded that the problems experienced by the students didn't differ in terms of gender. Similarly, Kiremit et al. (2021) concluded that there was no difference in terms of gender because of their study with high school students. Similarly, in the study conducted by Yildiz (2016) with students receiving pedagogical formation education and, in the study conducted by Arslan and Korkmaz (2019) with graduate students of Theology were found that the problems experienced in the distance education process did not change significantly according to the gender. At the end of the study, it was observed that there was a significant difference in the question size of the scale according to the grade level. According to the data

obtained, 3rd-grade students stated that they had more problems with the inadequacy of question solutions on the scale. One of the reasons for this may be that the 3rd-grade students have passed more numerical courses in distance education than the 2nd-grade students. In other dimensions of the scale, no significant difference was observed in the grade level variable.

As a result of the analysis, it was concluded that the students had the most problems in the physics course. Similarly, in the study of the Kirtak Ad (2020), teacher candidates were asked about the courses they followed most during the distance education process. Most of the pre-service teachers stated that they followed the courses (such as optics, electricity, solid state physics, and nuclear physics) more. As a reason for this, they stated that these courses are mostly numerical, abstract, and more difficult to understand.

As a result of the analysis, the most obvious reasons why students have problems in lessons are the inadequacy of the teacher's use of technology not attending the course, limited time, and the problem of the internet connection. Similarly, in the study conducted by Gillies (2008), pre-service teachers stated that they did not feel like real students because they could not get an instant answer to their questions and interact with their teachers during the distance education period.

Recommendations

The study which the problems experienced by the students in the distance education process are tried to be determined, the working group can be expanded, solutions can be determined for all the problems that exist in the distance education process, and the success can be increased in the possible distance education process. In the distance education process, considering that the students have problems with the inadequacy of the number of questions solved especially in the numerical courses, the duration of the courses can be extended to increase the solution of the questions. Especially, since applied courses such as physics and chemistry are more difficult to understand, these courses can be planned as blended learning (face-to-face + online) as a solution.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

Acknowledgements or Notes

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The Scene and Importance of Teaching the Project Approach in the Light of the Results of a Hungarian Questionnaire Research

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Abstract: The project approach, thinking in projects, is becoming increasingly important today. The rapidly changing world, new challenges and new tasks require us to plan and execute a task accurately, then analyze it and learn from our mistakes. It can also be said that our daily lives are not a series of routine tasks, as life presents us with new challenges. No better example of this than the pandemic, which is a new situation for everyone. Thinking in projects can be learned and taught, but it should not be learned on the job, but should become part of our knowledge long before it is needed. There are many methodologies, recommendations and good examples of how to transfer the project approach, but these are not always effective. In our research, we sought to identify the levels of education at which respondents consider project-based education to be effective. We were also interested to find out for what purposes they considered the project approach useful and where they would benefit from it. In this study we seek to answer the question of when it is appropriate to start teaching project-based learning, at what level and why it is important, based on the results of a questionnaire survey conducted in Hungary.

Keywords: Project orientation, Project management, Educational level, Project thinking

Introduction

In today's fast-paced world, a project approach, thinking in projects, is an important competence for all economic actors. The main characteristic of projects is their planning, which can be understood in several dimensions. This planning not only contributes to the success of corporate projects, but is also a highly applicable approach to private projects. However, despite the importance of thinking in terms of projects, its prevalence is not outstanding. The education system, from the grassroots to higher education, can do much to develop this approach and to make project thinking more common. It is not only businesses that can think in terms of projects, but there are also many activities in their private lives that meet these criteria. In this paper we will try to highlight where to start this educational activity, which level of education is best suited to transmit and demonstrate this approach.

Literature Review

The word project has become fully integrated into everyday language in recent years. We call a major investment a project, whether it is a road, a bridge, a public transport system, a housing estate, a company site or even machinery. But it is not only in the life of companies and businesses that projects can occur. If we as private individuals are thinking about buying a television set, or planning to buy a plot of land or a car, we go

through similar processes as a corporate project. On a smaller scale, the same applies to planning a holiday. In all cases, these activities start with the idea, then we plan the necessary steps, get informed, carry out the activities, monitor the implementation, and finally draw conclusions and learn from the project. All this is a series of activities following the logic of project management. Project management, as an emerging field of management discipline, was initially greeted with reluctance by the profession, but the approach and methodology it imparts has now gained unprecedented popularity.

The word project is derived from the Latin projectum, meaning "to put something in front of". The history of projects goes back a long way, to prehistoric times. Pyramid, ship, temple and road building were also considered as projects, but it was only after the industrial revolution that we started to deal with project management (Aranyossy et.al, 2015). A project is always a series of activities designed and implemented in a given environment to achieve some desired, predefined goal, with time, cost and outcome criteria. These activities are carried out along specific objectives, with specific resources and with attention to changes and risks. There are many definitions of the concept of projects in the literature, ranging from the process approach to the organizational approach.

Table 1. Understanding the concept of project

Aggteleky & Bajna (1994)	"Projects are time-limited, practical or abstract plans which, because of their size, complexity, novelty and importance, cannot be satisfactorily solved by routine management methods."
ISO (1994)	"A project is a unique set of processes that start and a set of coordinated and controlled activities undertaken to achieve a specific objective in terms of time, cost and resources, with start and end dates."
Gorog (1996)	"A project is any activity that represents for an organisation a single and complex task with a defined duration (start and finish) and cost (resources) of completion, and which is intended to achieve a defined objective (result)".
Verzuh (2005)	"A project is an activity that is carried out only once. Whether it's designing an aircraft, a logo or setting up a bakery counter, every project has an outcome and a start and finish date. The significance of projects can only be understood when we realise that each one of them is a unique product."
Wysocki (2019)	"A project is usually defined as a unique experience that has never happened before and will never be repeated under the same circumstances."
PMBOK (2020)	"A time-limited effort to create a unique product, service, or outcome."

All authors agree that a project is definitely a specific activity that has not been encountered before by an organization or individual. It can be clearly stated that a project can be broken down into well-defined phases that can be planned, monitored and controlled. It is also important to note that the success factor is very important for projects. Project success is measured along the classic project triangle.

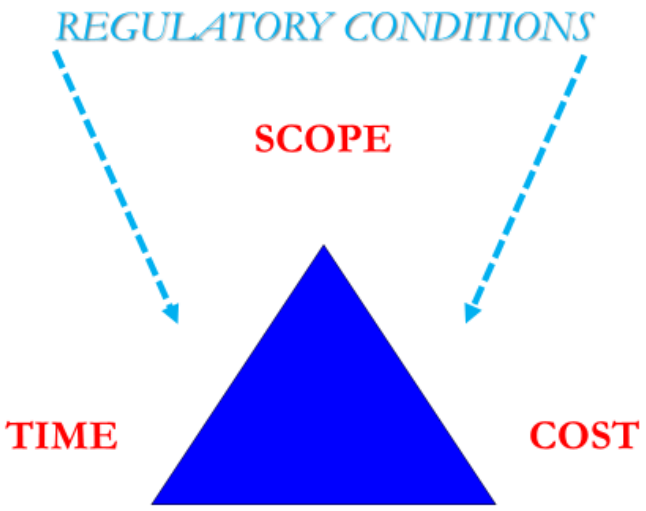

Figure 1. The iron triangle of projects

The triangle is an isosceles triangle, which shows that you cannot change one leg without damaging the other (two). The project triangle shows the project's constraints and limitations in the context of each other. In all

cases, a project has three characteristic goal elements that define the project in its essence. The triple balance of time - efficiency - cost is the key to a well-functioning project.

The success of projects is measured and interpreted by many organizations. A successful project is one that meets all the elements of the triangle. Based on the PMBOK recommendations, there is room for change, so a project that needs a change in one of the three legs can be successful. Along these lines, Wellingtone carries out an annual survey of the success of projects. Their survey reveals that the success rate of projects is below 50% year after year, due to design errors and inadequate assessment and interpretation of risk factors. The graph below shows that the success rate of projects ranges between 45% and 50%. It can also be seen that during the pandemic period, the success rate of projects fell significantly, due to increasing uncertainty and a rapidly and often negatively changing environment (Wellingtone 2016; 2017; 2018, 2019; 2020; 2021).

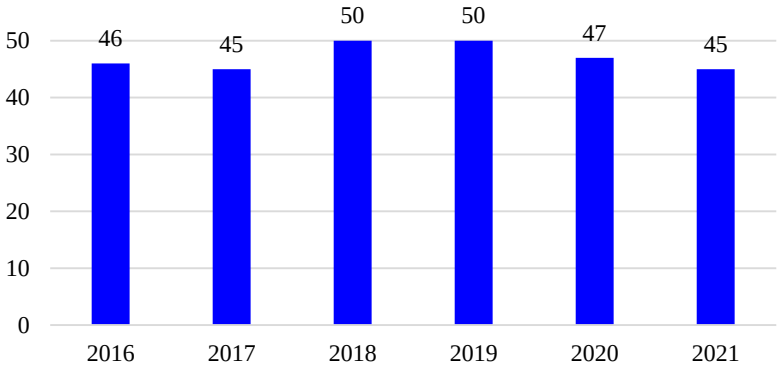

Figure 2. Percentage of successful projects in enterprises (%)

The above-mentioned organization has extended its research to the stems of the project triangle. For the successful projects along the triangle, it can be seen that the greatest variation is found in the effectiveness factor, where the proportion is lowest in relation to the other factors. The data also shows that budget is the biggest constraint, with all project managers focusing on keeping projects within budget, as obtaining additional resources or failing to do so often leads to project failure (Wellingtone 2016; 2017; 2018, 2019; 2020; 2021).

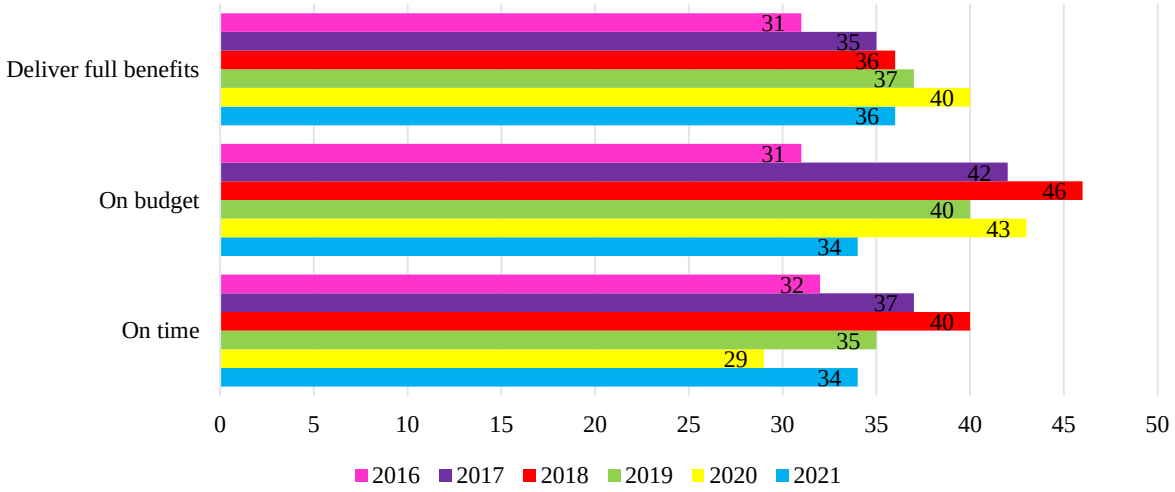

Figure 3. Completion of the elements of the Iron Triangle in projects (%)

A similar measurement is carried out by PMI every year, with a higher percentage of successful projects than in Wellingtone's measurement. This organization assesses projects on several dimensions, along different factors. It also cites a higher success rate along the triangle factors, but also looks at the proportion of projects that are modified and those that are doomed to failure (PMI, 2021).

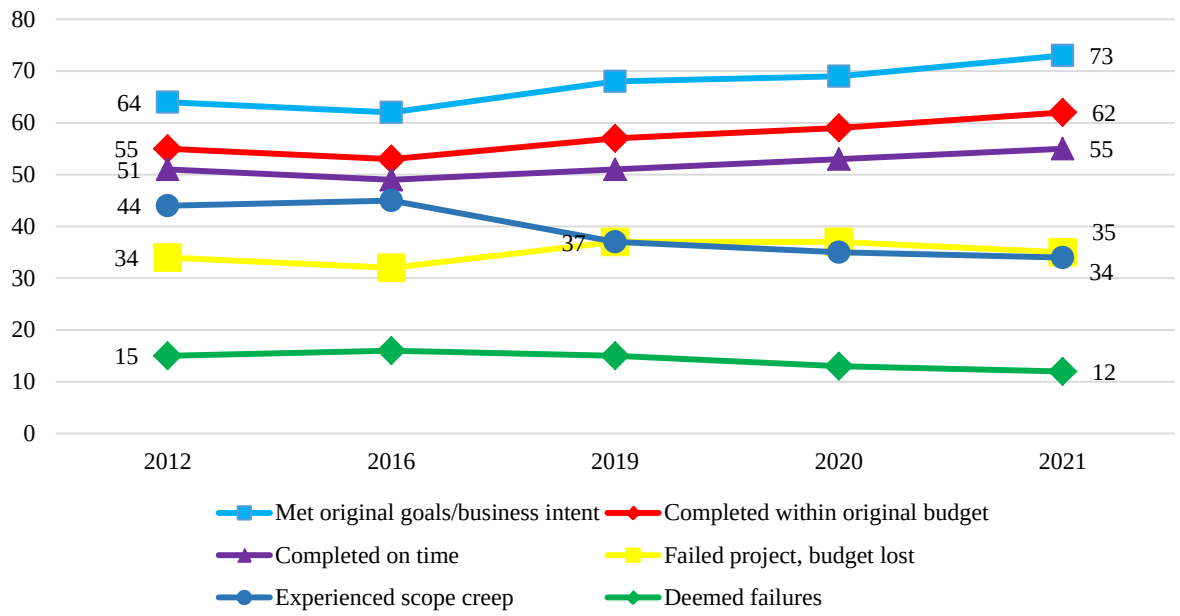

Figure 4. Project outputs (%)

The above analyses refer to company projects, no similar aggregation has been made for individual projects, although it would be worthwhile to examine both the awareness and the success factor behind them. When looking at the success of projects, it is important to remember from whose point of view we are looking at and measuring them. Due to the increased project orientation in recent years, we tend to call all activities projects out of fashion, on a whim, without the appropriate methodology. It is important to emphasize that a project is not successful if it manages to raise and spend the money needed for it, but if it solves a problem, if it provides an answer. In a 2008 paper, Kremer presents a curved mirror of this process.

A correct understanding of the concept of projects and the ability to understand and monitor the factors that guarantee success can be important in all walks of life, both as an entrepreneur and as a private individual. Learning the methodology of conscious project planning as early as possible, making it part of our thinking, even part of our culture, will avoid the consequences of hasty decisions. The earlier we start to adopt and transfer the approach, from planning to implementation and redesign, the earlier we will radically change our attitude and mindset when it comes to making major decisions (Lakatosne et al., 2017).

In her paper (2018), Ms Lakatosne analyses internal and external controllers according to who is most affected by the project mindset in their everyday decisions. The former group of persons are those who make decisions based on their own convictions and competences, consciously planning their lives and actions. Project thinking helps them in their everyday decisions. They do not wait for solutions from others, but prepare them themselves, redefining them if necessary by learning from their mistakes. Project thinking should therefore be embedded in the education system to help us plan consciously and support the success of our decisions as individuals.

Material and Method

The study is based on primary research conducted in Hungary in 2020 using a pre-tested, standardized questionnaire. The questionnaire was finalized after an in-depth interview prior to the finalization of the questionnaire, and then based on the results of the qualitative survey. The questionnaire contained only closed questions to allow for a clearer evaluation of the sample and the responses. The questionnaire was completed completely anonymously by the respondents, who were not identified in any way. 44.3% of the respondents were female and 55.7% were male. In terms of generation, 65.4% of the respondents were from Generation Z, 19.4% from Generation X and 15.2% from Generation Y. It was also important to examine whether respondents had previously studied project management. Only 28.7% of the respondents indicated that they had received previous project management training, so the majority of the sample (71.3%) had not previously studied project management. The results obtained are not considered representative, but they provide an opportunity to design and ground a future representative study. The sample presented above was evaluated using SPSS 22.0 and subjected to basic statistical tests. The questions asked solicited respondents' views on the importance of project-

based learning and the effectiveness of project-based learning on a four-point Likert scale, with a negative endpoint of 1 (strongly disagree) and a positive endpoint of 4 (strongly agree).

The following hypotheses are formulated in the research:

1. primary education is the best setting for the transmission of the project approach
2. the importance of the project approach is felt not only at organizational level but also at individual level

Results

As a first step, we were interested in the importance of project management as a discipline and approach. We wanted to explore why project management is important and at which level it is important: at the individual level, at the managerial level or at the corporate level. We split the responses into two groups according to whether or not the respondents had previously studied project management. The results show that, from the respondents' point of view, project management is most important at the corporate level, and less important at the individual and managerial level. It is also an interesting conclusion that respondents who have not studied this type of knowledge also consider it more important than those who have previously studied project management.

The most important area identified by the respondents was the corporate level, with an overall average score of 2.49. It is interesting to note that respondents who had previously studied project management felt less important the project approach at the enterprise level (2.56) than respondents who had not previously studied this type of knowledge (2.31), a very marked difference in terms of values. A surprising result in relation to this question is that project management was not considered as important at managerial level by respondents as at corporate level, even though managers make the corporate decisions (1.86 - a very significant difference). Again, respondents who had not previously studied project management (1.95 vs. 1.66) placed a higher value on the importance of the managerial level in relation to this question. However, the most important message of the question is that at the individual level, project management is hardly considered important by the respondents. The value obtained for the total sample is 1.51, and there is little difference between the sample of respondents who have previously studied project management and those who have not (1.53 vs. 1.47). All this shows that it would be very important to emphasize the importance of a project approach in individual decisions. After all, business decisions are made by managers, based on their individual experience. It is therefore essential that people understand the importance of a project approach in all aspects of their lives and work.

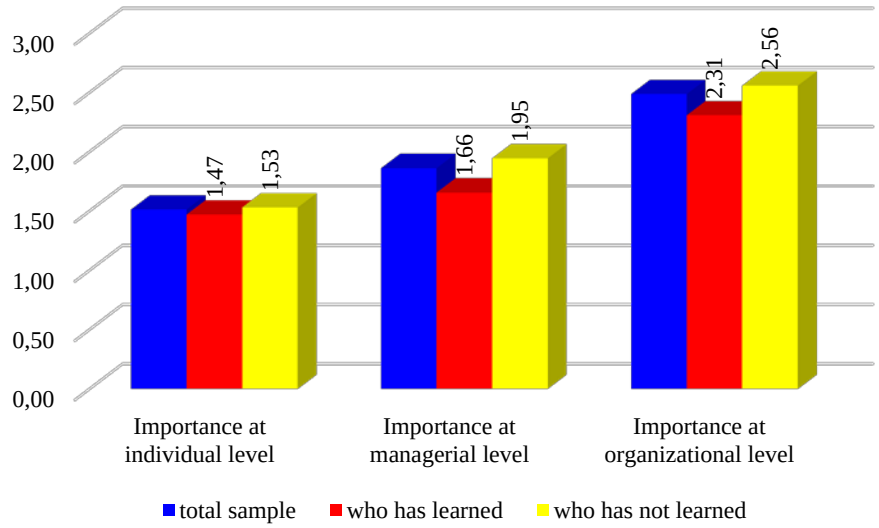

Figure 5. The importance of the project approach at individual, managerial and company level (N = 792, educated N = 227, uneducated N = 565)

We also sought respondents' views on the effectiveness of project education. The graph below clearly shows that respondents almost unanimously perceive the lower primary school as the most effective setting for project education (3.37 - almost the maximum). There is little difference in the scores obtained for respondents who

have not studied or who have studied project management before (3.33 vs. 3.39). The least effective stage was considered by respondents to be the upper primary school (1.44), and here again there is a relatively unanimous view (1.45 vs. 1.42). Project-based learning was also considered important by respondents at secondary school level (2.46) and in higher education during undergraduate studies (2.37). Project education at secondary and tertiary level was also relatively unanimously rated by respondents. Interestingly, however, the proportion of respondents who had previously studied project management is much higher at the tertiary level (2.57 vs. 2.29). Respondents' perceptions also suggest that project teaching is less effective at Master's level. There is a huge difference in the opinion of respondents who have previously studied project management (1.00) and those who have not previously studied this type of knowledge (2.00). This clearly shows that respondents who have had previous project education clearly see its importance in terms of basic education as well as in primary education at lower secondary level. All this information points to precise directions for project education in the future.

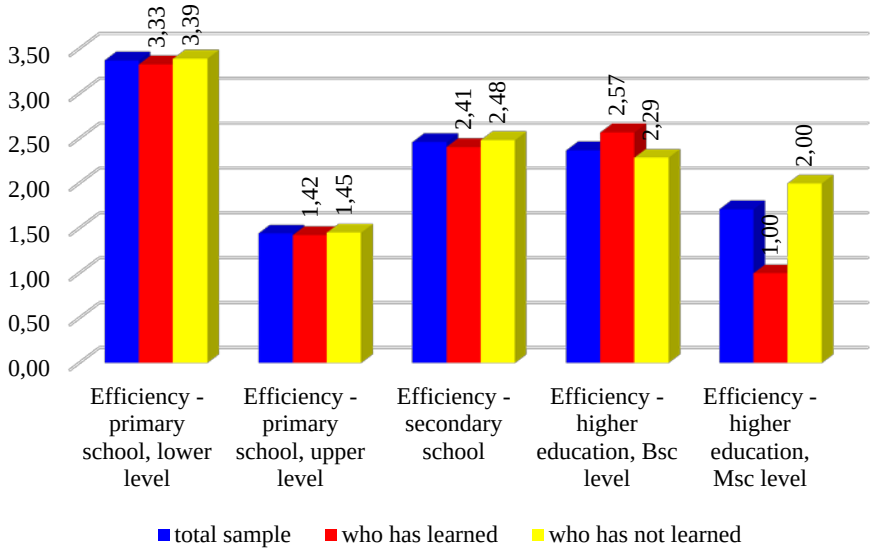

Figure 6. The effectiveness of project-based learning (N = 792, educated N = 227, not educated N = 565)

Next, we also wanted to know to what extent previously learned project management skills influence perceptions of importance and effectiveness. For this study, a Chi-square test was conducted. In terms of importance, it is clearly shown that previous target studies influence the perception of the importance of project management at both managerial and corporate level.

Table 2. Correlation between the importance of the project approach and previous project education(N = 792)

	Chi-negyzet ertek
Importance at individual level	0,256
Importance at managerial level	0,000
Importance at organizatioal level	0,005

In terms of the effectiveness of project education, previous participation in targeted education clearly influences the perception of the effectiveness of project education at secondary school level as well as in terms of higher education. All these findings clearly emphasize the generalization of project management education.

Table 3. Correlation between effectiveness of project training and prior project management knowledge (N=792)

	Chi-negyzet ertek
Efficiency - primary school, lower level	0,359
Efficiency - primary school, upper level	0,467
Efficiency - secondary school	0,000
Efficiency - higher education, Bsc level	0,000
Efficiency - higher education, Msc level	0,000

Summary and Conclusions

The results presented in this study show a very mixed picture with regard to the issues examined. As regards the importance of project management, it is clear that it is of primary importance in the minds of respondents at the enterprise level. This clearly shows that they see project management as an entirely applied economics, with less practical use outside the corporate context. However, it is very important to apply the project approach at the individual level. It is also interesting to note that respondents do not see its importance at managerial level, even though it is the managers who make the decisions on projects. All this suggests that it is very important to generalize project learning and to show its practical usefulness as well as its usefulness at the individual level. On this basis, the second hypothesis formulated in the research is rejected.

The results also show that the most important arena for project-based learning, as perceived by the respondents, would be primary education, including lower secondary education. In this case, it would be necessary to implement group work that strengthens group cohesion and encourages students to work together towards measurable results, using playful methods and integrated into the curriculum. It is also essential to highlight project-based learning at secondary school level. Here, in addition to playful tasks, it would be worthwhile to teach the theoretical foundations of project management and to build on this in the basic training to develop professional skills. The results also show that respondents at master's level no longer consider project teaching to be at all important in terms of effectiveness. All these results confirm our first hypothesis.

As regards the future of project-based education, it is worth reflecting on the main messages of the research. Project-based tasks should be much more widely integrated into primary and secondary education, consolidating the skills and competences that strengthen the project approach at individual level. It would be worth treating these skills as financial competences, which are becoming increasingly important in our lives. In setting future educational development directions, it is certainly worthwhile to think about strengthening project competences, so that the practical benefits of the project management discipline can be felt not only at the corporate level but also at the individual level.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

Acknowledgements or Notes

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Marketing in the Metaverse: A Sceptical Viewpoint of Opportunities and Future Research Directions

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Abstract: Metaverse can be a difficult concept to comprehend because of its nature which includes richness and complexity. Researchers, managers, and opinion leaders anticipate that the Metaverse might actually change how customers engage with products and services. On the other hand, much technical staff and business managers are still unfamiliar with the Metaverse as a new business concept. By taking a sceptical viewpoint, the current paper may assist managers and scholars in making better decisions concerning the concept of the Metaverse in a marketing context. The paper begins by describing the metaverse notion in broad and in relation to marketing. Following this, we adopt a sceptical approach towards four critical categories: customer experiences, customer trust, customer engagement, and advertising in the Metaverse. Lastly, we propose future research directions, including defining what marketing in the Metaverse is and describing its narratives while minimising the hype and exaggerated claims surrounding it.

Keywords: Metaverse, marketing, customer experience, customer engagement, advertising

Introduction

Nowadays, technology is developing at an exponential rate, and many organisations are unable to keep up with the rapid advancements in computer technologies and systems (Israfilzade, 2022). As a result, the larger the organisation, the longer it may take to transition from one software/system design to another. Companies try to comprehend and get on board with these various technological developments. One of the most current debates is the Metaverse, which describes the transcendent reality and has influenced it for some time.

In some way, the Metaverse is a digital replica of the real world in which we operate. In this three-dimensional digital environment, users' avatars that mimic them and copy their actions allow them to engage with one another and their surroundings, which simulate the physical world. According to Gartner, Inc. (Rimol, 2022), by 2026, 25% of individuals will spend at least one hour every day in the metaverse for working, shopping, learning, socialising, and entertaining. Users may communicate with friends in the metaverse, acquire and exchange digital assets, take virtual journeys to digital destinations that may be entirely constructed or have real-life analogues, and much more. The metaverse presents a world of limitless possibilities, with only the user's imagination as a boundary (Mileva, 2022).

In the future, it is predicted to have a huge impact on several industries, including marketing, fashion, technology, and games. It is critical to have information before entering the world of the metaverse, which merges physical reality and digital virtuality. According to the authors (Hollensen et al., 2022) of "Metaverse - the new marketing universe," the Metaverse will not completely replace the Internet or the social media network but rather build on and continuously change it into a virtual 3D social media world consisting of many new and fascinating user experiences.

For organisations that function largely in the real world, the metaverse notion may serve as a massive experiment with direct access to target demographics, particularly the younger generation. In other words, we

might assume that younger audiences are more tech-savvy and engaged in this virtual world due to the nature of technology and its complexity.

However, some critics (Robertson, 2021; Wankhede, 2022; MacDonald, 2022) argue that the metaverse is a hazy idea; without science fiction, it implies practically nothing, and even inside sci-fi, it means nothing. In its most basic form, the metaverse is simply a fancy, aspirational word for some type of virtual or augmented-reality activity (Bogost, 2021).

The metaverse has garnered quite a degree of scepticism due, in large part, to the uncertainty that surrounds it. At this point in time, the concept is little more than a buzzword because there is no actual product or purpose in reach. Despite the benefits that have been attributed to the metaverse, there is yet no open and interconnected metaverse. This indicates that these technologies are, in most instances, either theories or early prototypes, contrary to well-established and well-defined technologies.

The current paper examines the notion of the Metaverse in the context of marketing from a sceptical point of view, with the intention of assisting managers and academics in obtaining more enlightened decisions. The research is most directly related to our scepticism over the following four critical categories: customer experiences, customer trust, customer engagement, and advertising in the Metaverse. The concept of the metaverse is first discussed in this work based on a literature review, both in a general sense and in reference to marketing. At the end of the article, several suggestions are made regarding the directions that future research should go in.

Literature Review

The current study's primary research methodology is a "scoping literature review." There are several forms of literature reviews, and the research approach and design determine the type chosen. Scoping reviews are exploratory research studies that outline the literature on a topic methodically by identifying essential concepts, hypotheses, and sources of data that influence field practice (Munn et al., 2018). The primary goals of scoping studies are to identify gaps in current literature and to indicate areas that require additional investigation. They intend to analyse the prospective amount and scope of existing research material (often including ongoing research) as well as the present degree of synthesis. The paper attempts to answer the main question of why this area of research needs to be studied further by having a sceptical view of opportunities. These suggestions fall under one of four categories: customer experiences, customer trust, customer engagement, and advertising in the Metaverse.

Literary Origin of the Term

Nearly 30 years ago, acclaimed science fiction author Neal Stephenson (1992) invented the term "Metaverse" in his novel Snow Crash. He coined the phrase "metaverse" to describe a technology he imagined combining *virtual reality*, *augmented reality*, and a *social network*. This is depicted uniquely in the novel since Hiro Protagonist has a different lifestyle in the Metaverse than in the physical world. *Stephenson (1992), page 24;*

"So Hiro's not actually here at all. He's in a computer-generated universe that his computer is drawing onto his goggles and pumping into his earphones. In the lingo, this imaginary place is known as the ***Metaverse****. Hiro spends a lot of time in the* ***Metaverse****. It beats the shit out of the U-StorIt."*

The author revealed in the acknowledgements section at the conclusion of the book *Snow Crash* that the terms "avatar" (in the meaning used in the novel) and "Metaverse" are his inventions, which he came up with after he determined that existing terminology (such as "virtual reality") were just too challenging to employ.

The Metaverse is an immersive universe that mixes virtual reality and augmented reality, in which users are embodied by avatars and navigate virtual spaces (Efendioğlu, 2022). Eventually, several researchers characterised the metaverse as a component of a larger technological architecture. According to Lee et al. (2021), the metaverse is a virtual world that combines physical and digital elements, made possible by the convergence of Internet and Web technologies. Furthermore, the metaverse, according to Gartner (Rimol, 2022), is a collaborative virtual shared place formed by merging virtually augmented physical and digital reality.

When the high expectations are examined more closely, a common thread does emerge, and that is the fact that nearly no one can reach a consensus on a single definition or explanation of the technology.

In this paper, we assume that the Metaverse is the *networking and computing of three-dimensional virtual worlds based on anthropomorphised social interaction that combines physical reality and digital virtuality through the implementation of Extended Reality (XR).* XR incorporates digital and physical elements to varying degrees, such as augmented reality (AR), mixed reality (MR), and virtual reality (VR).

Sceptical Analysis of the Metaverse

Nowadays, simply gratifying consumers by providing the finest product and services is insufficient since the majority of them are homogenous, and the competitiveness of the local and worldwide markets is tremendous (Israfilzade, 2021). As far as media and the early metaverse companies have advertised and described the Metaverse to the audience, the average user may assume that in the metaverse, individuals use avatars to represent themselves, interact/engage with one another, and virtually create a community. Apart from that, digital currency is utilised in the metaverse to purchase clothing, artefacts, and items in video games, as well as a range of other things from the brands. In a short statement, it may sound like science fiction, but when decomposed, we could see that we already have such technologies and have been using them for years (e.g., the gaming industry)

Some would claim that the metaverse is a 3D equivalent of the Internet that is considered the inevitable next step of growth and would ideally be accessible through a unified access point. Meanwhile, authors (Hollensen, Kotler & Opresnik, 2022) explain that the Metaverse is an additional 3D layer on top of the conventional 2D Internet.

The authors (Zhao et al., 2022) of the paper "Metaverse: Perspectives from graphics, interactions, and visualisation" explain that as the metaverse is still in its early stages of progress, no research has been noted to systematically summarise the technical framework for its full visual construction and investigation, nor have graphics, interaction, and visualisation been studied separately from the perspective of the metaverse. The current research is most linked directly to our scepticism about four crucial categories: customer experiences, customer trust, customer engagement, and advertising in the Metaverse.

Customer Experiences

Academicians and researchers have referenced, analysed, and theorised about customer experience in the last three decades. Capturing experience, on the other hand, is a challenging process. Because experience has multiple diverse meanings, it has been characterised in a variety of ways. Holbrook and Hirschman (1982) provided one of the earliest formulations of hedonic consumer experiences, emphasising consumption's sensory, emotional, and fantasy elements. Consequently, Getz (2007) described many uses of the experience understanding in terms of cognitive, awareness, emotion, sensations, knowledge, and abilities.

The Customer Experience is the result of a series of contacts between a customer and a product, a firm, or a component of its organisation that trigger a reaction (Lemon & Verhoef, 2016). Its evaluation is based on a comparison of a customer's expectations of product/service and the stimuli derived from interactions with offerings at various stages of the customer journey. This purely personal subjective experience requires the customer's participation at several levels *(rational, emotional, sensorial physical and spiritual*).

Early adopters believe that the introduction of the metaverse will significantly improve the experience of virtual reality. Nevertheless, would it be the same actual experience that an individual gets from the real world? That is the fundamental scepticism underlying customer experience: that the claimed and expressed metaverse experience *cannot* be the same as the real-world experience due to the biological and physical boundaries of humans who interact and engage in the metaverse.

The meaning of "*cannot*" is that this is not comparable to the *customer experience* customers enjoy in the real world, where *experience* is comprised of cognitive, emotive, sensory, and behavioural components. *Making a snowball and throwing it at each other in the metaverse*, for example, cannot provide the same sensation as in the physical world. Because visualisation alone is insufficient to fulfil the cognitive, emotional, sensory, and behavioural aspects of the experience.

Because of the nature of technology, customer experiences on the metaverse will be significantly differentiated, as previously stated. This notion is vital for strengthening customer experiences since omnichannel customer engagement leads to increased loyalty, and adding the metaverse as another medium only improves the whole experience. It is also possible to infer that if a brand is present on the metaverse, it has a distinct identity in the customer perception.

Customer Trust

The primary concept of relationship marketing is to establish and maintain long-term connections with the customer in order to increase a company's competitive advantage. The customer-firm connection can be based on a variety of factors, including the product or service, staff performance, brand name, or the business altogether. In addition to these aspects, customer trust remains an important component in establishing customer loyalty toward the organisation.

Customer loyalty is determined by factors apart from *customer trust*. Other variables influencing loyalty include service quality, value perception, customer satisfaction, and even pricing. However, in the early stages of the metaverse, customer trust is one of the most important factors to address owing to users' privacy and data sensitivity to the possibility of exploitation by businesses.

Trust is crucial in individuals' relationship with their organisations (Nguyen, Leclerc & LeBlanc, 2013). In reality, trust in the metaverse may immediately impact a customer's decision to continue or discontinue their engagement with a company. According to Ratnasingham and Kumar (2000), building customer trust includes considering its three key components: competence trust, predictability trust, and goodwill trust. Adopt these aspects in the metaverse that can be used to construct trust. From the viewpoint of the customer, it would be easy emphasises.

- *Competence trust* in the metaverse is based on the brand company's skills, knowledge, and operations and maintenance abilities, which originate from an economic base.
- *Predictability trust* is based on the metaverse company's perpetual behaviours, which originate from a background of familiarity.
- *Goodwill trust* is confidence in the metaverse company's sincerity and generosity, which derives from a background of empathy.

On the other side, there is growing scepticism about how firms store and distribute private customer data. Users rely on their privacy to huge brands much too easily, and understandably so because users have frequently depended on reputation as the primary criteria to determine whether to trust a product from a certain brand (Kumar et al., 2020; Lee et al., 2021). Unfortunately, in today's data-driven market, where users' data is a commodity, large firms have claimed to have strict privacy standards, but several cases reveal that organisations provide third parties access to users' data. This is especially important in the metaverse since it includes human-like connections, and their misuse by third parties can result in a significant reduction in customer trust immediately or over time. Most metaverse platforms promote the usage of cryptocurrencies, non-fungible tokens (NFTs), as well as other digital products, which could eventually become the primary means of transfer of value in the metaverse. This can be a technological and technical problem for individuals who are not crypto proficient and a trust issue.

Customer Engagement

Customers now have access to information at their fingertips (Israfilzade & Babayev, 2020; Israfilzade, 2022). With too many alternatives for better-educated clients, retaining and recruiting customers using traditional tactics has been difficult. *Customer engagement* refers to the process through which a business develops a relationship with its existing customers to increase customer loyalty and brand awareness. Customer journeys are now dynamic and non-linear, and the majority of consumers and firm clients across generations use numerous platforms to initiate and complete specific customer demands and transactions (Israfilzade, 2022). Customer engagement procedures are complicated, and positive outcomes such as service co-creation are anticipated when the message is evaluated positively.

The capacity to provide a personalised consumer experience on the correct channel at the right moment is critical for approaching human-centric engagement; without it, relevance is "nearly" impossible. Customers may

now interact with companies at any time through a range of digital platforms (Israfilzade & Babayev, 2020). A view of the value of online customer engagement reveals that it is dependent on the cognitive processing of signals caused by various actors in a metaverse ecosystem.

Researchers may only be in the initial wave of customer engagement with the metaverse; however, early success stories are already yielding insights. In some respects, the essential components of marketing in the metaverse are similar to those of creating genuine and engaging brand experiences in the real world. The metaverse presents a novel possibility for brands, for which there are, at least in theory, significant opportunities. And by using the metaverse's capacity to bridge the gap between physical and virtual commerce, marketers may enhance their consumers' purchasing experiences.

The public is often sceptical whenever a new idea is gaining popularity and generating news, and the metaverse is no exception. Customers may be more receptive to the concept of the metaverse or a hybridised version of it. Specifically, massively multiplayer online games (MMOs) have been around for over two decades, which means that online virtual worlds and ecosystems have been there for nearly as long.

Advertising in the Metaverse

Advertising in the metaverse is one of the most fascinating and financially beneficial topics, with both corporations and academics interested in how human behaviour potentially differs in the virtual world. There are many unanswered questions, such as what function advertising plays in the metaverse and whether it works the same way it does in the real world. Customers in the metaverse may even enjoy a one-of-a-kind experience by customising their avatars, including their vitals and colour preferences.

Given businesses' reasonable excitement about reaching their audiences in new and interesting ways, brands must keep in mind that, as with social media, *the not-so-new laws of truth-in-advertising apply in the Metaverse.*

One distinctive feature of advertising in the Metaverse is the ability to create three-dimensional representations. Interestingly, the advertising objective would be the same in the metaverse, where an advertising objective is a particular communication activity to be completed with a specified target audience at a certain moment.

The paper explores advertising in the Metaverse through advertising aims categorised according to their principal purpose: inform, persuade, or remind.

- Informative advertising is utilised to generate initial demand when introducing a new product line in the Metaverse.
- With greater competition for building selective demand, persuasive advertising in the Metaverse is essential.
- With mature products, it is essential to use reminder advertising in the Metaverse to sustain customer connections and keep consumers thinking about the product.

In the metaverse, companies must evaluate sensory and/or performance promises made by a specific advertisement, including whether the claims stated about the products or services are truthful and supported with appropriate evidence that may back the statements. It is doubtful that advertising in the Metaverse would need the creation of new rules and regulations. Nevertheless, it remains to be seen how existing rules and regulations will be implemented to advertising in the Metaverse.

Future Research Agenda

Over the previous two decades, advances in virtual and augmented reality and artificial intelligence have steadily materialised the building pieces of what was once a fantastical universe in a sci-fi novel. Users have several methods to join the metaverse, the same as how they did in Snow Crash, including VR and AR devices, phones, and desktop PCs. The success of virtual reality games in particular, is contributing to bringing the notion of the metaverse to the public, as is rising interest in related technology such as blockchain and cryptocurrency.

Apparently, the metaverse already provides significant brand-building and marketing options for businesses. Experimenting, gaining knowledge, and achieving marketing success in the metaverse are unlikely to be limited by the existing technology limitations and a small degree of popular usage.

- How will interconnectivity, or the capacity to move digital avatars and assets between worlds, operate in the metaverse? In other words, how firms may be a part of it without a single interconnected metaverse.
- How will first-party customer data be handled, secured, and stored? How will current data privacy regulations be applicable to the metaverse, and how can companies obtain consent and data sources to increase their own customer insights

Does the metaverse have the ability to replace the Internet? Not if all virtuality is integrated into a single ecosystem, therefore indicates that the one-linked metaverse is likely decades away. Metaverse is still too early to know which metaverse projects will work in the long run, but marketing managers should start learning, exploring, and getting ready for a metaverse to compete effectively. The metaverse's ultimate objective is to become totally interconnected, however this concept of comprehensive interconnection may become utopian. However, even a little step toward simplifying platform transfers might introduce new trust problems.

Security in the metaverse is one of the primary research gaps in both practical applications and academic studies, and it ought to be treated as a distinct concern for the purpose of the development process of the metaverse. Another major area of concern is the identification and prevention of *fraud* (e.g., scams)in the metaverse, which, if not well addressed, would likely cause users to anticipate it and lose interest in the platform, which in turn may result in negative consumer perceptions.

Furthermore, researchers must investigate the influence of the metaverse as a new customer journey on consumer outcomes such as total *customer engagement* and *satisfaction*, as well as integrate the metaverse as an extra touchpoint in the customer experience journey. Undoubtedly, a VR business experience will not provide as many opportunities. Businesses will certainly attempt to regulate what users can and cannot do. If this occurs, the experiences supplied by these worlds may be quite limited compared to those provided by game-based services such as Second Life.

Conclusion

The metaverse is not yet ready for widespread use by the general public. On the other hand, early adopters get the opportunity to take part in more personalised interactions immediately. As a result, businesses may require a new data collection, regulation, analytics, and cybersecurity strategy while respecting their privacy and inspiring the confidence that stimulates data sharing. This strategy should contain clear regulations, particularly about consent, so that users understand who is accessing their data and for what reason.

Digital marketers must stay current on technology changes, which includes comprehending the metaverse and its full potential. Marketers must recognise that the metaverse provides an opportunity to build marketing experiences that connect in with real-world activities or mimic what business already does in real life. Obviously, the metaverse already provides sufficient opportunity for brand creation and marketing for businesses. The existing technology limitations and low degree of popular acceptance are unlikely to be substantial problems to experimenting, developing, and succeeding with metaverse marketing.

Regardless of how the metaverse progresses, innovation and customer choice will likely increase in the future. Beyond marketing, the metaverse has significant future opportunities; however, to create value across the organisation, businesses must carefully consider the possible strategic implications of the metaverse for marketing, management, manufacturing, R&D, and human resources, *without relying on hype delivered either by media or companies.*

In the current phase of the metaverse's development, it may be determined, based on a scoping literature study and metaverse trends, that firms should be *cautious* and *sceptical* when developing any marketing plan for the metaverse. As indicated, there is plenty of opportunity for *experimentation* and *learning* before launching the final business activities.

Scientific Ethics Declaration

The author declares that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the author.

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Investigation of Scientific Studies on Wearable Technologies in terms of Security and Privacy

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Abstract: This research aims to present the general situation of scientific publications in the WoS database dealing with wearable technologies in terms of security and privacy from a comprehensive and holistic perspective. A total of 71 publications were reached within the scope of the research by going through various screening processes. Document analysis method was used to collect the data, and content analysis method was used for the analysis. The results of the research show that there has been a steady increase in the number of publications on this subject since 2015. In particular, it has been observed that 86.8% of the publications have been published in the last five years. In addition, it has been revealed that the most publications on the subject are in the fields of "Computer Science", "Engineering", "Telecommunications" and "Science Technology". On the other hand, it has been seen that the concept of Security is used more than the concept of Privacy in the fields of Computer Science, Telecommunications and Engineering. In addition, when the keywords of the publications are mapped, it has been seen that the words "Wearable Technologies", "Security", "Privacy", "Internet of Things", "Authentication" and "Attack" are used more frequently.

Keywords: Wearable technologies, Security, Privacy, Content analysis

Introduction

The popularity of wearable technologies has increased in the last few years with the latest improvements in technology and wearable technologies have now become a part of the daily life. Wearable technologies, which reach an important position in the market day by day with their wide product variety and are constantly developing, have a wide range of uses in terms of both individual and business needs (Bostanci, 2015; Ozguner Kilic, 2017). In the modern sense, it can be stated that the first wearable computer was designed in 1955. In the following years, there have been great developments in wearable technologies, especially in the fields of health, exercise, games, and entertainment (Demirci, 2018; Sağbas et al., 2016). In addition, the uses of wearable technology products include defense, communication, tourism, navigation and supporting services (Kalantari, 2017; Karamehmet, 2019). It can be said that these technologies have a rapidly growing impact in the field of education and offer significant opportunities.

Wearable technologies are smart digital devices or computers, often wirelessly connected, that can be integrated into pieces of clothing, worn on the body, or even tattooed on the skin, along with different types of accessories (Wright & Keith, 2014). Wearable technologies are a comprehensive concept that defines technologies that analyze and report the user's activities, behaviors, biological changes, emotions, environmental data, physical and psychological functions (Bozkurt, 2018). These technologies are electronic devices supported by

microprocessors, developed with the ability to send and receive data over the internet, have practical uses and are physically worn by individuals. Wearable technologies enable to perform multiple functions such as various types of communication, tracking personal data in real time with the help of various sensors, analyzing and transmitting this data.

Wearable technologies cover a wide variety of sensory devices such as smart watches, smart glasses, activity trackers, head-worn displays, smart optical lenses, smart clothing, smart jewelry, headbands, smart gloves, hearing aids, bracelets and wristbands (Kalantari, 2017; Wright & Keith, 2014). These technologies include a wide variety of sensors to measure mechanical data (position, displacement, acceleration, force), acoustic data (volume, pitch), biological and clinical data (heart rate, temperature, blood pressure, neural activity, sugar level, respiratory rate), behavioral data, (running, walking, climbing), optical data (refraction, light wave frequency, brightness, brightness) and environmental data (temperature, humidity) (Barfield & Caudell, 2001; Conderman et al., 2021; Lewy , 2015). Wearable technologies provide detection and monitoring features as well as many features that cannot be seen on mobile phones and computers, such as biological feedback and monitoring psychological conditions (Demirci, 2018).

It can be said that wearable technologies, which are among the products that consumers are most interested in, have many benefits that can significantly change the structure of societies and institutions. For example, the use of wearable technologies in the field of health can increase the success of medical procedures and patient safety by increasing the accuracy of clinical decisions with the obtained data. Also, wearable technologies can lead individuals to engage in healthier behaviors and significantly reduce health care costs. Wearable technologies can be used to monitor the safety and health of children and the elderly, reduce hospitalization and death rates, and alert health care providers about diseases of the elderly (Ferreira et al., 2021; Kekade et al., 2018; Lee & Lee, 2018). In addition, wearable technologies can be used to monitor personnel dealing with hazardous materials (Kalantari, 2017; Wilson, 2013). Moreover, the advantages of using these technologies over other devices include features such as easy portability, fast interaction, freedom of movement, providing feedback, increasing effectiveness, ergonomic and easy use (Bozkurt, 2018; Bower & Sturman, 2015). Fast interaction, ease of use, time and energy savings can be counted among the reasons why wearable technologies are preferred by users (Liu, 2014; Kuzu Demir & Demir, 2016). Due to the possibilities offered by wearable technologies, it can be considered that it will be beneficial in the long term in terms of enriching learning experiences (Bozkurt, 2018; Labus et al., 2015; Sezgin, 2016).

Despite the advantages offered by wearable technologies in the literature, it has also been determined that there are some disadvantages. Some educators believe that the constant use of wearable devices by students makes them dependent on this technology, thus preventing or reducing critical and independent thinking (Bower & Sturman, 2015). Long-term use of wearable technologies can also cause health problems that harm vision and hearing (Sivakumar, 2014). Furthermore, it should be noted that these technologies raise some concerns about data security and privacy in addition to concerns about users' intellectual property (Bostanci, 2015; Bozkurt, 2018; Resnick & Chircu, 2018). The main problems with wearable technologies are some of them require larger battery capacities, they are generally costly, some technical problems such as overheating occur, they distract students, may harm the privacy of users and users show resistance to change (Attallah & Ilagure, 2018; Bower & Sturman, 2015). In other studies, problems that may arise due to lack of infrastructure, social concerns, ethical factors, technical skills and compliance plus high prices have been identified (Bozkurt, 2018; Kuzu Demir & Demir, 2016; Sezgin, 2016).

The research aims to present the general situation of scientific studies dealing with wearable technologies in terms of security and privacy in the WoS database from a comprehensive and holistic perspective. In the literature, it has been observed that the number of scientific studies on the subject has increased and the studies have diversified. Due to the increasing importance of the subject, it is thought that it attracts the attention of researchers. It is thought that the results of the study will provide researchers and experts with a detailed perspective on the subject and will guide new studies to be done.

Method

In this study, which was carried out with the qualitative research method, a systematic review design was used. A systematic review is the synthesis of study findings with a holistic perspective by bringing together all published research related to the research question within the framework of predetermined criteria in order to answer a specific research question in general (Yilmaz, 2021). In this way, comprehensive assumptions about the trends of the researched subject can be obtained and this can guide the researchers about the current issues of

the research area for their future studies. In line with the general purpose of the research, answers to the following questions were sought:
Based on scientific studies on wearable technologies in the WoS database;

• What is the distribution by years?
• What is the distribution according to applied research areas?
• What is their distribution according to the scope of security and privacy in research areas?
• What is the distribution by keywords?

Data Collection Process and Analysis of Data

The data of the study were obtained from the Web of Science (WoS) database. In the data collection process, primarily, search criteria were determined to reach and examine scientific studies made with wearable technologies. As a search phrase ("wearable technolog*" OR "wearable device*" OR "wearable computer*" OR "fashion technolog*") AND ("privacy" OR "security" OR "crime" OR "legal" OR to find relevant studies "law" OR "violation" OR "malware" OR "hacking" OR "breach" OR "virus" OR "attack" OR "threat*" OR "injection" OR "ethical" OR "spam*" OR "DoS" OR "phishing") keywords are used. The scanning process was repeated at certain intervals until the end of January 2022. There was no restriction on the years of publication in the searches made. Books, research and lecture reports, and abstract or full-text papers found in the relevant searches were not included in the study. Only studies (articles, review articles and early access) written in English and scanned in SCI-E or SSCI indexes were included in the research. In the analysis, it is seen that a total of 68 studies that are suitable for the purpose of the research and that do not have access barriers have been accessed. The "Academic Publication Review Form" developed by the researchers was used as a data collection tool in the study. The form was developed considering similar compilation studies in the field. The form, which was prepared in accordance with the purpose and content of the research, was reviewed by three academicians who are experts in their fields, and its content validity was tried to be ensured. Data were analyzed using content analysis. Content analysis is coding the data, finding the themes, organizing the codes and themes, and defining and interpreting the results to reach relationships and concepts that can explain the data collected for studies in a specific field (Yildirim & Simsek, 2016).

Results and Discussion

Distribution of Publications by Years

In the study, primarily the distribution of scientific studies on wearable technologies by years was examined. The obtained results are given in Figure 1.

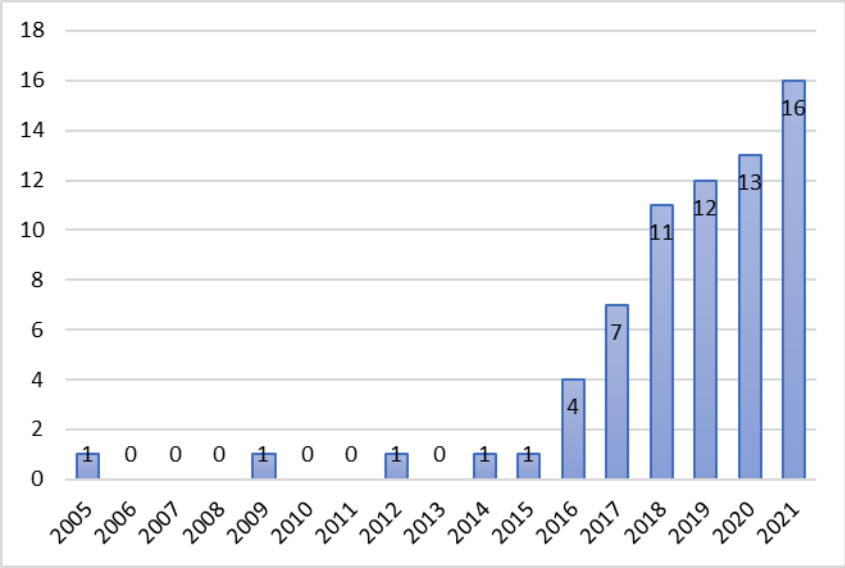

Figure 1. Numerical distribution of publications by years

When Figure 1 is examined, it is seen that only five publications on the subject were made until 2015. However, in the following years, a significant increase in the number of publications on the subject was noted. In particular, it has been observed that 86.8% (59 publications) of the publications were published in the last five years.

Distribution of Publications by Research Areas

In order to reveal the potential of wearable technologies in the field and to evaluate the results, it has also been determined in which research areas these applications are carried out. The top 10 research areas are presented in Table 1.

Table 1. Distribution of publications by research areas

Research Areas	(f)
Computer Science	41
Engineering	25
Telecommunications	22
Science & Technology	10
Business & Economics	7
Materials Science	7
Chemistry	5
Health Care Sciences & Services	4
Medical Informatics	4
Physics	4

When the data in Table 1 is examined, it is seen that the most publications on the subject are in the field of "Computer Science" (f=41). This is followed by publications in the fields of “Engineering” (f=25), “Telecommunications” (f=22) and “Science Technology” (f=10).

Distribution of Publications by Security and Privacy Scope in Research Areas

The distribution of publications in research areas according to the scope of security and privacy is presented in Table 2.

Table 2. Distribution of publications in research areas by security and privacy scope

Research Areas	Security (f)	Privacy (f)
Computer Science	32	15
Telecommunications	17	10
Engineering	15	9
Business & Economics	5	4
Medical Informatics	4	3
Health Care Sciences & Services	3	3
Science & Technology	4	2
Social Sciences	2	2
Chemistry	0	2
Communication	2	1
Information Science & Library	2	1
Automation & Control Systems	1	1
History & Philosophy of Science	1	1
Materials Science	1	1
Neurosciences & Neurology	1	1
Public Administration	1	1
Instruments & Instrumentation	0	1
Other Topics	1	0
Science Business & Economics	1	0
Mathematical & Computational Biology	1	0

According to Table 2, it has been determined that the concept of security (f=32) is used more often than the concept of Privacy (f=15) in Computer Science. In addition, similar findings were found in the fields of

Telecommunications and Engineering. However, there is no publication about Security in the fields of Chemistry and Instruments & Instrumentation. Another area outside of the research areas specified in Table 1 was included in the "other" category. When Table 2 is examined, it is seen that more than one research area is used in some publications. In addition, in some publications, the concepts of privacy and security are used together. It can be said that the main reason for this is the use of the concepts of privacy and security in more than one research area at the same time in some of the reviewed publications.

Distribution of Keywords Used in Publications

Keywords are very important in presenting the study content and outline. In this context, the keywords used in the publications were also examined. Key phrases that are very close to each other in terms of meaning were gathered under a single keyword in the research. The word cloud of the keywords used in the publications is presented in Figure 2.

Figure 2. Word cloud of keywords used in publications

As a result of the analysis, it was determined that in some of the publications, the keywords remained insignificant in reflecting the nature and content of the research, while in some of the publications, they fully explained the nature of the research. It was determined that a total of 249 different keywords were included in the studies discussed. When the keywords in the studies were examined, it was determined that the frequency of use of the keyword "Wearable technologies" (f=78) was higher than any of the other keywords. The most frequently used keywords after the “Wearable Technologies” are “Security” (f=96), “Privacy” (f=24), “Internet of Things” (f=16), “Authentication” (f=19) and “Attack” ” (f=7). The 204 keywords used in the studies took place only once. In addition, no keywords were used in four of the studies.

Conclusion

In this research, it is aimed to evaluate the current situation by examining the general situation of scientific studies dealing with wearable technologies in terms of security and privacy in the WoS database from a comprehensive and holistic perspective. Therefore, this study is a research based on document analysis. Based on this situation, it can be stated that the current study will constitute a source for new studies to be done in the future and may be a guide on current issues.

As a result of the research, it was concluded that the number of scientific studies on the subject increased steadily every year and a significant part of the studies were carried out in the last five years. Therefore, it can be said that the subject attracts the attention of researchers due to its increasing importance and studies on this subject will continue. It can be stated that the developments in wearable technologies in recent years have been an effective reason for the emergence of this situation.

In order to reveal the potential of wearable technologies in the field and to evaluate the results within the scope of the research, it has also been determined in which research areas these technologies are carried out. As a result of the analysis, it was seen that the most publications were in the field of "Computer Science". This is followed by publications in the fields of "Engineering", "Telecommunications" and "Science Technology", respectively. Focusing on these research areas can be expressed as the fact that wearable technologies are hardware that can communicate with other electronic devices and can transfer data, and that it is a common research area in which both computer sciences, engineering and telecommunication sciences work interdisciplinary. However, it is striking that the subject is relatively not preferred in fields such as "Social Sciences", "Chemistry" and "Sport Science". Despite this, the existence of studies related to these research areas draws attention. It can be said that the studies conducted outside the main research area are mostly qualitative or quantitative studies. In this context, it can be said that it would be beneficial to focus on studies in these fields in order to enrich the literature and support these research results.

Another result obtained in the research is that the concept of security is used more than the concept of Privacy in the fields of Computer Science, Telecommunications and Engineering. However, there is no publication on the concepts of Security in the fields of Chemistry and Instruments & Instrumentation. In the keyword analysis, it was determined that the words "Wearable technologies", "Security", "Privacy", "Internet of Things", "Authentication" and "Attack" were concentrated in accordance with the search criteria. It can be said that the keywords used in the studies are related to the subject and describe the characteristics of the research.

In this research, it is aimed to examine the scientific studies on wearable technologies in terms of security and privacy in various dimensions and to share the results with researchers. As a result of the content analysis, it has been determined that there are many research areas related to the subject that are very few in number. In order to better determine the benefit level of wearable technologies in terms of security and privacy, it is recommended to make academic publications in different research areas that are not examined or examined less.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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Woman or Man? A Qualitative Research on Gender-Based Management Perception

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Abstract: In today's businesses, it is seen that the patriarchal management patterns of the past gradually lose their effect and business organizational structures are formed in which women are more involved. Although the increase of women in the business world is considered as a positive development, not many studies have been done on the perceptions created by the employees. The main question of this research is: Do you want to work with male or female managers? Why? In this context, the main purpose of the research is to determine the positive and negative aspects and preferability of working with male and female managers through the perceptions of the employees. Content analysis, one of the qualitative research methods, was used in the research. As a sample, 15 employees were determined. The MAXQDA 20 program was used for the analysis of the data obtained, and also was benefiting from the Hierarchical Code-Sub Code Model to determine the positive and negative characteristics of male and female managers. As a result of the research, it was determined that the employees preferred to work with male managers more.

Keywords: Woman managers, Man managers, Perception of gender-based management, Qualitative research

Introduction

Management is a process involving efforts to achieve predetermined goals with a group of people. The people who direct this group of people by persuading and at the beginning of the process are called managers. A manager is a person who ensures the successful realization of planning, organizing, directing, coordination and control processes. The place of men in the managerial position dates back to ancient times.

Although women have recently started to take an active role in business life, their numbers are not sufficient in managerial positions. The fact that female employees are less involved in senior management than male employees, and that their representation power as decision makers in strategically important positions and operational processes is low, has been a research topic that has attracted attention recently. Many studies have been carried out on this subject, associations have been established and awareness has been raised to increase the power of women in management (Sivrikaya & Wolff, 2021)

The topic is still up to topical. In general, although the attitudes towards female managers have become more positive, it is seen that employees still prefer male managers than female managers (Atwater, 2004). There are limited studies in the literature on the reasons why the number of female managers falls behind men and the factors affecting this (Atwater, 2004; Celikten & Yeni, 2004; Balgiu, 2013; Cuadrado et al, 2015; Sivrikaya & Wolff, 2021). From this point of view, the main purpose of the research is to determine the positive and negative features and preferability of working with male and female managers through the perceptions of the employees. The basic question sought to be answered in line with the main purpose is: Do you want to work with male or female managers? Why?

Literature

Perception of Gender in Management

After the Industrial Revolution, women began to take an active part in business life. In the beginning, instead of the men who went to war, they started to work in some fields, especially in the arms production factories, and to be preferred as a workforce in other fields after they did their job well. The main reason for their preference was that they were cheap labor. Despite the increase in their number in business life in the 1950s and after, their number in senior management levels was very limited (Atwater, 2004).

In 2020, the rate of employed people aged 15 and over in Turkey was 42.8%, while this rate was 26.3% for women and 59.8% for men. According to the results of the household labor force survey, while the rate of women in senior and middle management positions in companies was 14.4% in 2012, it became 19.3% in 2020 (www.tuik.gov.tr, 2022).

Recently, it has been observed that although women take a more qualitative place in business life, they cannot take place in senior management levels sufficiently. The most notable of the reasons that prevent female employees from being promoted to senior management is an insidious power glass ceiling syndrome, which makes its impact felt even though it is invisible (Erdirencelebi & Karakus, 2018). In addition, negative organizational behavior disorders such as mobbing, favoritism, glass elevator, work-family life conflict limit the number of women in senior management. On the other hand, the queen bee syndrome, which applies to both genders by female managers who have reached senior management levels despite all kinds of difficulties, draws attention.

In fact, the limited number for women's participation in working life, stem from social (education, etc.), economy (economic crises, the family's obligation to make a living due to divorce and death, etc.) and some communal factors. Especially, social roles are effective in many countries as in our country. The degree of this effect is milder in developed countries, while it is more severe in developing countries. According to the social role theory, women and men take on different roles in their daily lives. According to this theory, a woman is not a free individual and she is limited by her roles and responsibilities in the private sphere. Gender discrimination has been experienced in the business world due to these social roles and it still continues to be experienced. On the other hand, economies exhibiting a patriarchal social structure have brought along a number of obstacles that need to be overcome for women (Bingol, et al. 2019). These barriers are actually based on social role theory. According to this theory, the male takes on the masculine and the female takes feminine functions. In other words, the obstacles faced by women in business life stem from the dominance of masculinity in business life. Upbringing patterns nourish this structure in society and create a kind of "culture trap" (Claes, 1999).

The fact that the requirements of the formal structure and working conditions in business life are generally determined by masculine makes it difficult for women to adapt to business life. On the other hand, the female managers are both taking an active role in business life and endeavoring for their old social roles (housework, childcare and etc.). The effort to keep up with the requirements of all roles causes them to push themselves excessively. As a result of all these, it is possible for women to encounter burnout in business life. The belief that men have the characteristics such as ambition, industriousness, perseverance, courage, assertiveness and competition required for management; constitute the barriers fed by masculine ideas in front of women's advancement. In addition, many women do not demand to rise in their careers in line with the patriarchal mentality they have internalized due to the fact that their see themselves as inadequate, they believe that they will fail, and that being at the top will make lonely (Negiz & Tokmakci, 2011; Karaduman & Ergun, 2018). Another reason is that among the women who participate in the working life, those who are adequately equipped are very limited (Inalan, 2017).

Are Female Managers or Male Managers More Preferred?

Since women's participation in business life is much later than men, the basic rules and structures are arranged on a male basis. However, with the benefits of the age, women have made more efforts to prove that they are equal to men.

According to the study of Kanter (1977), one of the first studies on the subject, the main barriers to women's access to senior management are as follows (Claes, 1999):

• They cannot act or command authoritarian,
• They avoid conflicts, they avoid taking risks,
• Women often apologize, feeling responsible for everything.
• Women want to be involved in every necessary and unnecessary event,
• They always want to be approved,
• They fear abuse of power,
• They do not believe in their own success and attribute success to others.

It is natural to experience differences in management styles due to masculinity and femininity. The main differences in the management understanding of male and female managers in the researches are revealed below:

One of the most obvious differences between men and women is undoubtedly the way they communicate. While women are trying to share success, ask about a situation that is on their minds, explain things to be done indirectly instead of giving orders, and give feedback politely without offending; men tend to brag, give open feedback, say what to do and hide their mistakes (Knicki & Kreitner, 2006: 306-307). According to the generally accepted behavior patterns of women and men in social life; while women have characteristics based on discrimination and value management in establishing relationships and communication; men display more concrete, cause/effect-based and logical characteristics (Cook & Rothwell, 2004: 124-136). Male managers are able to control their emotions more than female managers. In other words, their emotional response levels are lower (Hearn, 1993). While the emotional response of female administrators sometimes provides an advantage, it can sometimes lead to the deterioration of authority and justice (Cekten & Yeni, 2004: 310).

The reason why female managers are preferred is that they use the right side of their brain more efficiently, while men use the left side more efficiently. In other words, women's emotional aspects are stronger, against their superiority in making sudden decisions, assertiveness, quick decision-making, and having a strong imagination. Men are more successful in making rational decisions, coordinating and analytical thinking (Artan & Atay, 2001). While female managers mostly rely on teamwork, male managers adopt the style that allows freedom (Durmus, 2001).

Zenger and Folkman (2019), in their research, found that while female managers are particularly strong in taking initiative, self-development, honesty and resilience; it concluded that men only 'develop a strategic perspective' and are more successful in the 'technical or professional expertise' category.

According to Orucu et al, (2007), reasons for preference of the female manager lists as follows;

• A female manager is one who makes more effort and behaves more carefully,
• She can provide the training needed by the employees better,
• She can adapt to changes more easily,
• She is more successful in motivating its employees,
• She is innovative and more creative,
• Good ability to observe, provides benefits in business processes,
• Communication and problem solving skills are higher.

Method

Purpose and Method of Research

In the study, asked the participants this question "Do you prefer to work with male or female managers?". And it based on this question, it was determined as the main purpose to determine the reasons for this preference. For this reason, the positive and negative aspects of male and female managers were investigated through the perceptions of the employees. In addition, the research also sought an answer to the question of which manager group is more in demand.

Sample of the Research

The sample of the research, consists of private sector employees who work in Konya. The only criterion sought for the sample is to work with both types of managers. Because the participants be asked to compare and

evaluate both types of managers. After the interview with fifteen people, it was determined that the similarity rates of the answers increased, and it was predicted that this number would be sufficient as a sample.

Research Method

Content analysis, one of the qualitative analysis methods, was used in the research. The interview method was used to collect data. During the interview method, the volunteering of the employees, working conditions etc., factors have been taken into account. For this reason, a meeting schedule has been arranged. The interviews were conducted face to face according to this schedule. The interviews took place between 20-25 minutes on average. In the research, no information that could decipher the participants and their institutions was shared.

Many studies, especially Jagacinski (1987), were used for the questions used for the interview. The questions asked to the participants in the interview are as follows:

1) Could you briefly tell about yourself?
2) Do you prefer to work with female managers or male managers?
3) In your opinion, what are the positive and negative aspects of working with female managers? Can you tell me about the events that happened to you?
4) According to you, what are the positive and negative aspects of working with male managers? Can you tell me about the events that happened to you?

In the study, it was investigated which type of manager was preferred by the employees and the reasons. In the interview process, semi-standardized method was preferred. In this context, additional information was given to the participants in order to better understand the subject, and additional questions were asked in order to get more detailed answers.

Results and Discussion

Firstly, the data obtained as a result of the interviews with the participants were deciphered. After that, the deciphered data was loaded into the MAXQDA 20 program and coding and analysis was carried out through this program.

Reliability of Qualitative Research

For the reliability of the research, the three-dimensional reliability tests that Krippendorff (1980) brought to the literature carried out. These dimensions are: stability, reproducibility and accuracy. The research reanalyzed in two different time periods for the stability dimension. If it determined that there are no big differences between the first data and the second data, it means that the stability dimension of the research achieved. Stability has been achieved in this research. In the reproducibility dimension, the research handled by two different researchers who independently each other. For this study, the similarity rate of the coding made by the two researchers is 88%. In this context, it has seen that reproducibility achieved in this study. For the last dimension, the accuracy dimension, a comparison made with the results of studies with similar subjects in the past. It determined that the results of the research have similarities with the study of Tolay (2020). Thus, the research also provided the accuracy dimension. It can be said that reliability is provided for the research that provides all three dimensions.

General Information about the Participants

Table 1 shows general information about the participants. As seen in Table 1, a representative code given to each participant (K1 to K15). There are 8 female and 7 male participants in the study. 11 of 15 participants are graduate students, 2 of 15, master degree and 2 of 15, PhD. The average age of the participants is 41, and their average total work experience is 16.

Table 1. Information on participants

Participant's Code	Gender	Age	Educational Status	Profession	Total Work Experience (in Years)
P1	Female	38	PhD	Academician	12
P2	Female	40	PhD	Academician	8
P3	Male	42	University	Logistics Chief	18
P4	Male	54	University	Accounting Manager	30
P5	Female	36	University	Public Relations Officer	11
P6	Female	41	University	Finance Manager	18
P7	Male	47	University	Accounting Manager	22
P8	Female	39	University	Public Relations Officer	13
P9	Female	43	University	Administrative Manager	16
P10	Male	51	University	General Manager	26
P11	Male	32	University	Marketing Staff	7
P12	Female	31	Master Degree	Accounting Staff	7
P13	Male	46	University	Finance Manager	18
P14	Female	30	Master Degree	Administrative Manager	6
P15	Male	48	University	Marketing Manager	24

Firstly, to participants, 'Do you prefer to work with female managers or male managers' question asked. The graphical distribution of the answer is shown in Figure 1.

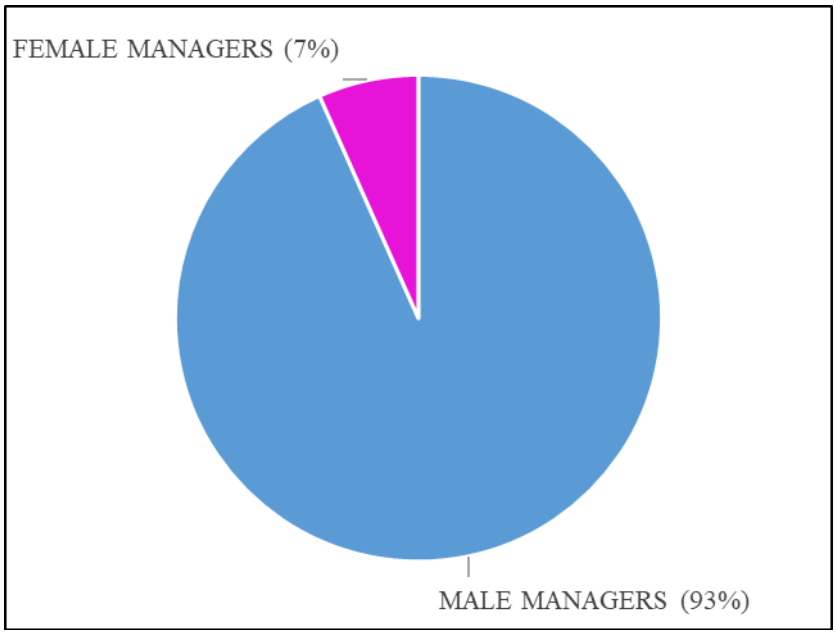

Figure 1. Administrator preferences by gender of the participants

93% of the participants prefer to work with male managers, and 7% with female managers (As seen in Figure 1). Figure 2, shows the results of the Hierarchical Code-Sub-Code Model of female managers, and Figure 3 shows it of male managers. Figure 4 shows the Code Relationship Matrix Code Map.

The Hierarchical Code-Sub-Code Model shows the hierarchical ordering of the upper and lower codes used in the study according to their coding degrees. Code Relationships Code Map shows the clustering states of the upper and lower codes created in the study. Line Width used in the code relations code map. Line Width is a parameter whose thickness increases with the increase of the overlapping codes between the two codes, otherwise it does not, and serves to show the degree of overlapping codes between the two codes.

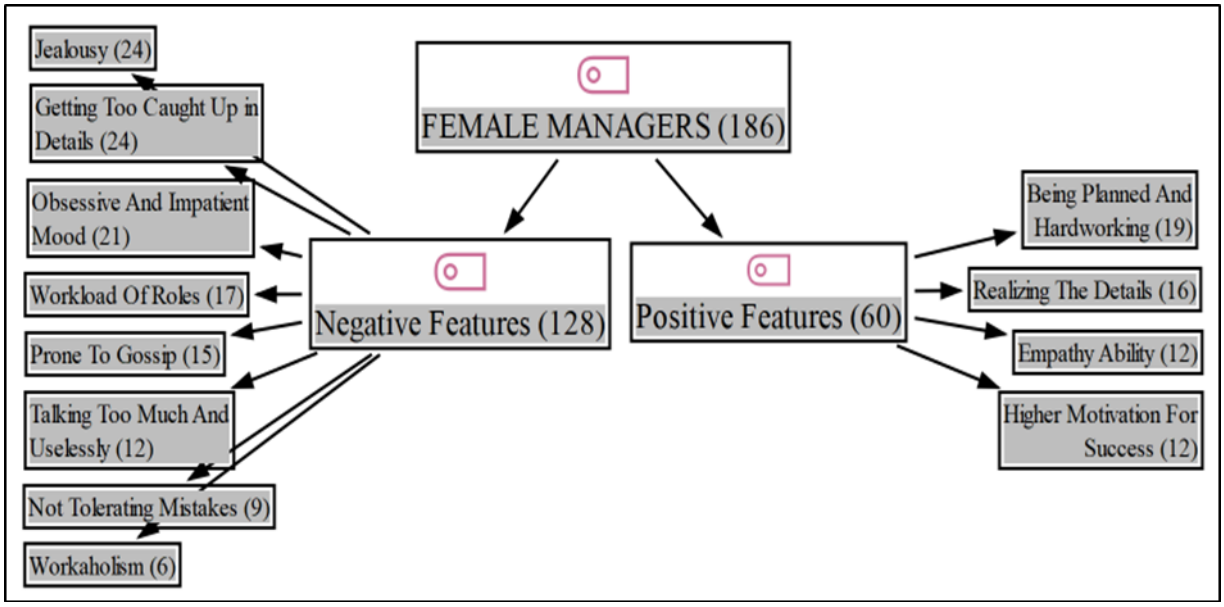

Figure 2. Hierarchical Code-Sub-Code Model of female managers

Figure 2 shows the negative and positive characteristics of female managers. The negative characteristics of female managers (from most coded to least coded) are respectively follows: Jealousy (24), getting too caught up in details (24), obsessive and impatient mood (21), workload of roles (17), prone to gossip (15), talking too much and uselessly (12), not tolerating mistakes (9) and workaholism (6). Their positive features are also respectively follows: Being planned and hardworking (19), realizing details (16), empathy ability (12) and higher motivation for success (12).

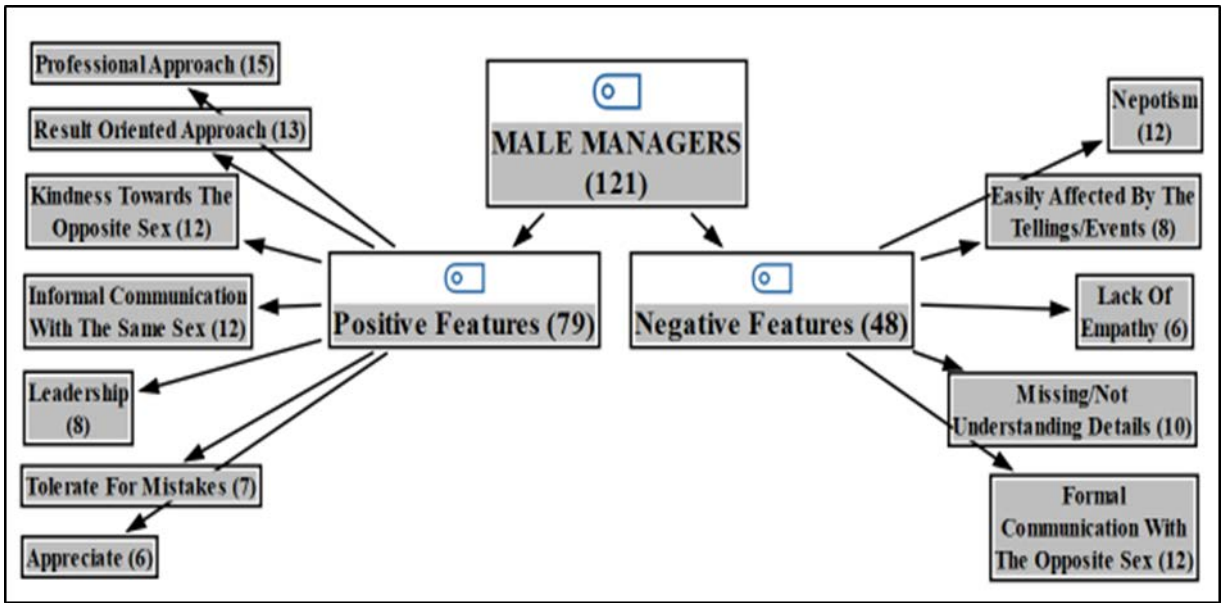

Figure 3. Hierarchical Code-Sub-Code Model of male managers

Figure 3 shows the negative and positive characteristics of male managers. Negative characteristics of male managers are respectively follows: Nepotism (12), easily affected by the telling/events (8), lack of empathy (6), missing/not understanding details (10) and formal communication with the opposite sex (12). Their positive features are also respectively follows: Professional approach (15), result oriented approach (13), kindness towards the opposite sex (12), Informal communication with the same sex (12), leadership (8), tolerate for mistakes (7) and appreciate (6).

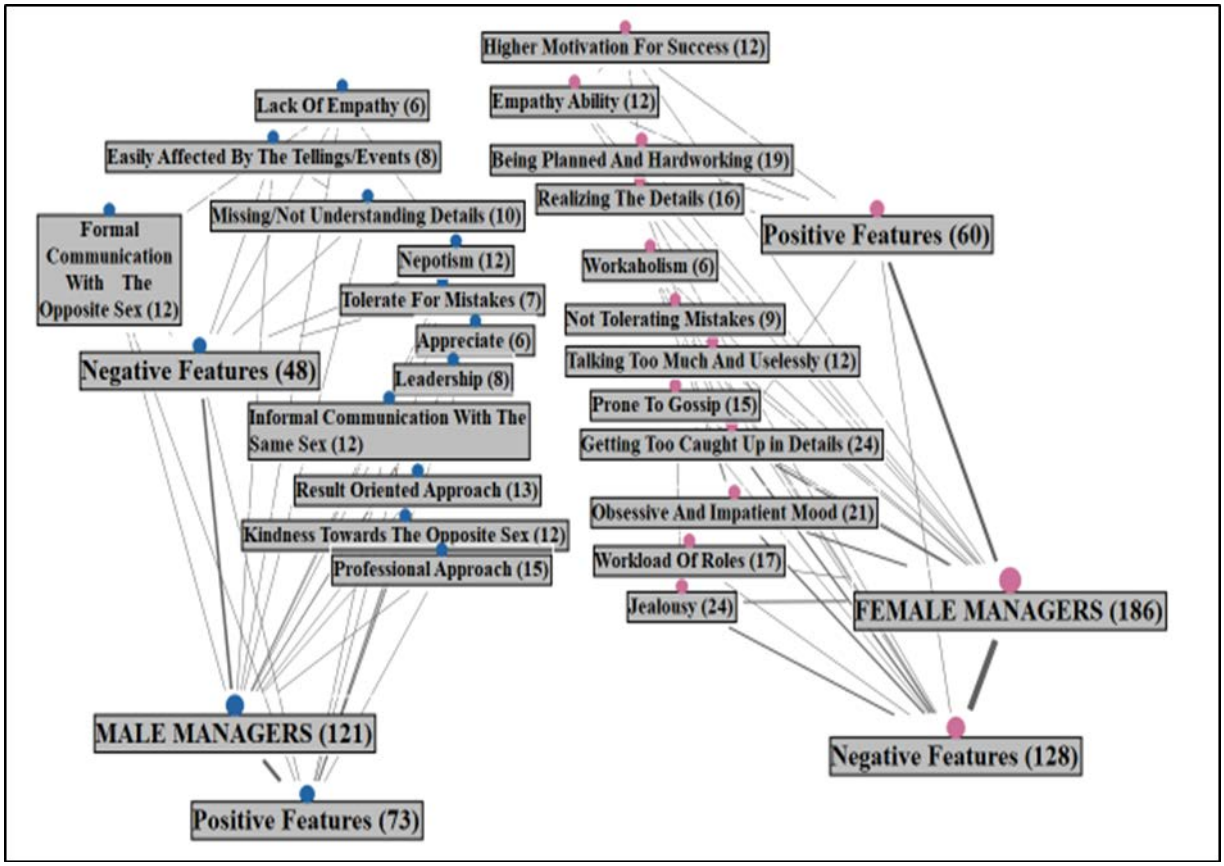

Figure 4. Code relationship matrix code map

Figure 4 shows the clustering of the encoding made according to the comments of the participants through the code map. In this context, when the closeness and line thickness of the "male manager code" with the "positive features code of male management" examined, it concluded that the participants think very positively about the male managers. Similarly, the closeness of the "code of female managers" and the "code of the negative features of women managers" and the ratio of line thickness indicate that the participants did not think very positively about female managers. The fact that 93% of the participants want to work with male managers (see Figure 1) proves this situation.

The participants' views on the subject also included in the study, but, since it is very long and detailed, instead of all the answers, the answers that best describe the subject included. In this context, the participant answers are as follows:

Positive Features of Female Managers

"I think female managers are more planned. They usually act within this plan and work hard in this process."

"For a female manager, being successful is like an inevitable end. She has to be successful to prove herself to men. That's why they're very motivated."

"As a woman, I think it would be much easier for a female manager to empathize with me. It is very difficult for men to understand some female problems and to communicate even if they understand."

"The most important feature of women is to notice every detail and to get results from it. If details are the key to success in a job, female managers become indispensable."

Negative Features of Female Managers

"One of the biggest problems of female managers is that they get caught up in so many details that they can't see the general picture most of the time. The subject to main focus on is often not discussed."

"It is often very difficult to work with female managers, because they are very motivated to be successful and prove themselves. This situation often goes up to working without overtime. He wants everyone to work as much as him and motivated. I had a former female manager who didn't almost go home. Even though she was gone home, she would still work from home and accuse us of being lazy."

"They are so obsessed. But they have this attitude towards everything from the clothing of a staff to the color of their hair, from their demeanor to the way they speak, etc. They want to decide everything for themselves and follow these decisions to the letter, immediately."

"They have too much ambition and motivation. They do not forgive any mistakes if their wishes do not come true. They pretend to listen to you, but they have no forgiveness for mistakes."

"Sometimes they talk so uselessly and so much that I forget what the issue is. Meetings sometimes can be very inefficient."

"They have a habit of knowing all the events within the institution. For this reason, they constantly receive news from the people they choose within the institution. They kind of like to gossip."

"Jealousy is in the genetics of women. In my former workplace, I have often saw that most successful female employees excluded by their own gender. The woman is jealous of the woman. A very clear inference"

"They are so interested in different things that sometimes they can't put much attach importance on their work. The woman has two basic responsibilities as wife and mother. Sometimes these two roles take precedence over the manager role. There is an incident that will set an example for this situation at my current workplace. We have a female manager who is having problems with her husband. She reflects this problem in her work. He has a very aggressive attitude towards male employees. He's also disrupting his work responsibilities because of the extra burden his children bring."

Positive Features of Male Manager

"The male managers don't bring a lot of emotion into his job. They take a more professional approach."

"Male managers are much more courteous, polite and understanding towards female employees. For this reason, I prefer to work with a male manager rather than a manager of my same-sex."

"It is very difficult to communicate with female managers. We have more in common with a male manager, and we can speak the same language. You always have to use a formal language with women managers."

"It is very difficult for a woman to lead in a male-dominated society. I think it goes against our perceptions. It is much easier for a man to lead."

"Everyone makes mistakes at work. While male managers can tolerate these mistakes, I have seen that female managers are more ruthless. So, it is more comfortable to work with male managers."

"The male manager knows what he wants, he doesn't get hung up on the details. But, women are drowning in the details. It takes much longer to get the result."

"Male managers can motivate employees better. It gives rewards. He appreciates the employees. Even when the female manager appreciates, she reveals something to criticize."

Negative Features of Male Manager

"Male managers are fine, but in some cases I prefer to have a same-sex manager, because there is a limit to communicate with male managers. You can't talk about everything."

"I can't say for the whole of them, but some male managers are very callous. They do not prefer to understand the other person's problems. They're like a refrigerator. Whatever you say, he says the stereotypes in his head and closes the subject. Their empathy ability is too restricting."

"Nepotism in the workplace has always existed and will always exist. However, male managers are more prone to favoritism than female managers. This can sometimes be true for those who are close to him, sometimes relatives, spouses, friends, sometimes political circles, and sometimes the same sex."

"Male managers work with very straight logic. It's like the details don't exist. They never question. For them, the general outline of the event is enough. But, details often determine the outcome."

"They believe everything they told or everything they see, without questioning the details. They are quickly also impressed, or I should say, they bleed too quickly. This situation causes weakness in their management."

Conclusion

There are many studies describing the injustices experienced by women employees by addressing issues such as the problems experienced by women in the business world, mobbing, workplace incivility, the patriarchal structure of the business world, and the glass ceiling syndrome. The common result of the studies in general is that various injustices done to female employees and in fact, more female employees should involve in the business world. Based on these views, the question "Would you like to work with male or female managers" taken as the basis in the study and the reasons investigated in depth through qualitative research methods.

In the research, a total of 15 private sector employees (8 women and 7 men) determined as a sample. The first result of the research is very striking. 93% of the participants stated that they prefer to work with male managers instead of female managers. This shows that female managers don't demand much in the business world. In this case, the participants were asked this question, "Why do you want or don't want to work with female/male managers?". Thus, the positive and negative characteristics of male and female managers determined (See Figure 2, Figure 3). Another striking result that emerged, according to these codes, is that the number of codes for only the negative features of female managers is higher than the number of codes for all male managers (positive and negative). In other words, it was seen that the participants explained what they did not want rather than what they wanted. That is to say, the basis of the desire to work with male managers is the undesirability of working with female managers. This result, contrasts with most of the studies of women in the literature that state that women should be more involved in the business world. In this respect, it anticipated that it will contribute to the literature.

As in every study, there are some limitations in this study. Since the instant thoughts of the participants in the study taken as data, the first limitation is the consistency and objectivity of the participants' thoughts on the subject. Another limitation is that the data of the study obtained from the participants in a single province. The results may change when the study repeated in different provinces or in more than one province. Besides to these, time and the economy are other constraints. The new studies can get by reducing the sample to a single sector, using a single gender and changing provinces.

Scientific Ethics Declaration

The authors declare that the scientific, ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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Staff Motivation for Green Behaviour and Environmental Initiatives

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Abstract: The main purpose of the study is to assess the use of motivational tools to green behaviour of employees and environmental initiatives in Ukrainian organizations. The results of the survey confirmed the working hypotheses: the practice of motivating staff to green behaviour and environmental initiatives in Ukraine has not become widespread. The research showed that a half of the organizations encourage environmental initiatives. At the same time, owners and managers of organizations prefer intangible rewards of encouraging employees to green behaviour and ecological initiatives. Although intangible rewards are more common in encouraging employees to participate in environmental activities than tangible ones, the practice of using them is still mediocre. The paper focuses on the necessity of paying more attention to both tangible and intangible incentives of encouraging employees to environmental activities by owners and managers. The study provides the important recommendations for encouraging employees to engage in green activities and environmental initiatives: increasing wages, paying bonuses, providing social benefits as tangible rewards; the publication of staff contributions to sustainable development, public recognition and awards for environmental efforts, green activities, encouraging the receipt of certificates and awards as intangible rewards; promotion of employees who have competencies in green management, involving employees in goal setting and the development of indicators of the environmental activities results, green corporate culture and green leadership as efficient corporate factors.

Keywords: Staff motivation, Green behaviour, Environmental initiatives

Introduction

Technical progress, population growth, irrational use of natural resources, their depletion and pollution lead to the deterioration of the ecological situation on the planet. Environmental protection becomes the task not only of public authorities but also of businesses, public organizations and every citizen. Today, some organizations are switching to alternative energy sources, resource-saving technologies, waste-free production, circular economy to meet the expectations of their consumers and customers.

In addition, the international community's increasing attention to environmental issues and the development of international environmental standards make it necessary for organizations to adopt green strategies and policies. A socially responsible organization should implement green practices, contribute to achieving sustainable development goals, and develop green corporate culture. To this end, the organization needs to have employees who share a green corporate culture, have self-motivation for environmental behaviour. At the same time, owners and managers should encourage employees to green behaviour, saving use of resources, and

- Selection and peer-review under responsibility of the Organizing Committee of the Conference

environmental initiatives, so they need to form an external motivation for green behaviour. To this end, owners and managers must use a variety of means of tangible and intangible rewards.

Literature review

Many researchers study the development of green HRM policies, green practices in personnel selection, adaptation, training and development, the impact of green HRM on the organizational environmental policies, encouragement of employees to green behaviour. The research of Dumont et al., (2017) empirically tests the influence of green HRM on employees' green behaviour. The study findings indicate that green HRM affects both employee in-role and extra-role workplace green behaviour; however, this occurs through different social and psychological processes.

Tsymbaliuk et al., (2021) develop a theoretical foundation for implementing environmental issues into HRM practices, including compensation and benefits, employee relations, corporate culture, communication etc. Rayner and Morgan (2018) assessed the environmental knowledge of employees and self-perceptions of ability, motivation and opportunity (AMO) to practise green behaviours by operationalizing the AMO framework towards a pro-environmental agenda. The authors' findings show that pro-environmental AMO is positively associated with green behaviours and that these are more prevalent at home than in the workplace.

The research of Temminck et al., (2015) examines factors that may contribute to the emergence of green behaviour of an organization. The authors found a significant relationship between the green behaviour of an organization and such factors as employees' concern for the environment, organizational support for environmental efforts, and organizational commitment. Robertson and Barling (2013) study links environmentally-specific transformational leadership and leaders' workplace pro-environmental behaviours to employees' pro-environmental passion and behaviours. The authors' findings show that leaders' environmental descriptive norms and the leadership and pro-environmental behaviours they enact play a significant role in the greening of organizations.

The research of Pellegrini et al., (2018) empirically tests the relationship between employee perceptions of HR practices and their propensity to adopt sustainable behaviour for supporting organizational change for sustainability. The results show that when the organization and line managers value and promote sustainability, employees are more likely to internalize and make sense of sustainability, which cause a higher commitment to adopt sustainable behaviour.

Norton et al., (2017) examine the between-persons relationship of corporate environmental strategy and green psychological climate. The results show that corporate environmental strategy is positively related to green psychological climate that, in turn, moderates the relationship between green behavioural intentions and next-day employee green behaviour. Saeed et al., (2019) examine the effects of green HRM practices on employee's pro-environmental behaviour. Results reveal that green HRM practices positively affect employee's green behaviour, and pro-environmental psychological capital mediated this link. Employee's green knowledge moderated the effect of green HRM practices on pro-environmental behaviour.

The paper of Zibarras and Coan (2015) presents the survey results investigating current HRM practices used to promote pro-environmental behaviour in the UK. The authors' findings indicate that HRM practices are not used to a great extent to encourage employees to become more pro-environmental. The most prevalent practices incorporate elements of management involvement, supporting the idea that managers are the gatekeepers to environmental performance.

Al-Swidi et al., (2021) investigate the determinants and outcomes of green corporate culture and green behaviour of employees. The authors confirmed the effect of environmental concern, green HRM and green leadership behaviour on green corporate culture. Green corporate culture has a positive relationship with employees' green behaviour and environmental performance. Ababneh et al., (2021) investigate relationships between green HRM practices, transformational leadership, and employee engagement with environmental initiatives. The findings indicate that employee engagement is positively associated with Green HRM practices. The study provides findings on how the contextual-institutional interactions between transformational leadership behaviours and green HRM practices can foster employee engagement with environmental initiatives. Despite significant interest from scientists in ecological policy issues, green HRM practices, research on environmental behaviour in the workplace and the factors that influence it remains understudied.

Methodology

Working hypothesis: the practice of motivating staff to green behaviour and environmental initiatives in Ukraine has not become widespread (H). In order to confirm or refute the working hypothesis, we conducted a survey (in the form of a questionnaire) during April - August 2021. The survey purpose was to assess the use of motivational tools to green behaviour of employees and environmental initiatives in Ukrainian organizations.

Objectives of the survey:

— to assess the practice of using tangible rewards to encourage employees to participate in environmental activities in Ukrainian organizations;
— to assess the practice of using intangible rewards to encourage employees to participate in environmental activities in Ukrainian organizations;
— to assess the practice of promotion of employees with competencies in the field of environmental management.

204 managers and HR specialists from Ukrainian companies took part in the survey. For assessing the practice of using different tools to motivate employees to green behaviour in organizations, we used a standard symmetric scale of responses to the proposed statements: “strongly agree”, “rather agree”, “rather disagree”, “strongly disagree”, and “difficult to answer”.

Results and Discussion

Figure 1 shows the theoretical model of the formation of employees’ green behaviour in an organization and place of employees’ motivation. The green behaviour of employees depends on the availability of necessary conditions, the development of green competencies in employees, staff motivation to green behaviour and environmental initiatives.

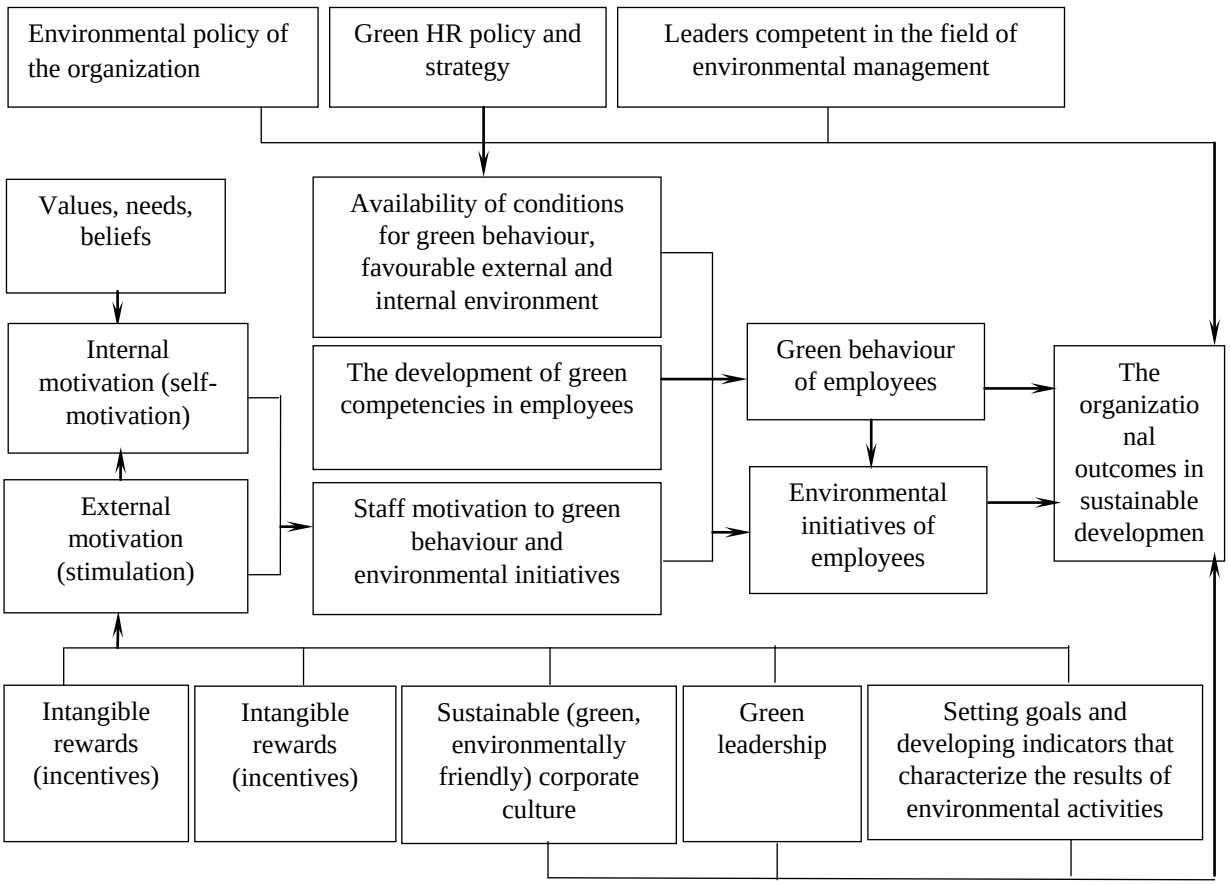

Figure 1. The theoretical model of the formation of employees green behaviour in an organization

The motivation of employees as an encouragement to green activities is determined by internal motivation (self-motivation). Internal motivation depends not only on the employee values, needs and beliefs but also on external incentives – a set of tangible and intangible rewards used by owners and managers to encourage staff to green behaviour, sustainable corporate culture, green leadership and setting green goals. Table 1 contains the survey results on the different methods used for motivating employees to green behaviour in Ukrainian organizations. Half of the respondents (50%) said that the organization encourages environmental initiatives to reduce carbon emissions (use of public transport, e-cars, work at home, etc.), waste reduction (use of recycling, electronic archives, etc.). It is a good practice that contributes to the effective implementation of environmental policies and green activities. In this regard, it is necessary to find out what motivational tools are used by owners and managers for encouraging employees to green behaviour and environmental initiatives. The use of tangible rewards (salary increases, bonuses, social benefits) by employers and managers for encouraging employees to environmental activities is quite limited. Only 18.6% of respondents confirmed the spread of such practices in the organizations in which they work.

Table 1. The survey results on the different methods used for motivating employees to green behaviour in Ukrainian organizations

Statements	Answers, % of respondents				
	strongly agree	rather agree	rather disagree	strongly disagree	difficult to answer
The organization encourages environmental initiatives to reduce carbon emissions (use of public transport, e-cars, work at home, etc.), waste reduction (use of recycling, electronic archives, etc.)	23.5	26.5	13.7	25.5	10.8
The organization encourages employees to participate in environmental activities through tangible rewards: salary increases, bonuses, social benefits	8.8	9.8	17.6	48.0	15.7
Top management uses public recognition and awards for environmental efforts, green activities	15.7	15.7	17.6	38.2	12.7
The organization publishes the contribution of staff to the sustainable development	20.6	22.5	12.7	29.4	14.7
The organization encourages the receipt of certificates and awards rewarded to employees by external organizations for green behaviour	12.7	14.7	11.8	44.1	16.7
The organization promotes employees who have competencies in the field of environmental management	3.9	9.8	19.6	45.1	21.6
The organization develops a sustainable (green, environmentally friendly) corporate culture	19.6	29.4	13.7	22.5	14.7
The organization develops goals and indicators that characterize the results of environmental activities	12.7	19.6	15.7	36.3	15.7
Employees participate in the development of goals and indicators that characterize the results of environmental activities and took part in the discussion of ways to improve them	10.8	18.6	20.6	34.3	15.7

In contrast to tangible incentives, intangible rewards are more common for encouraging employees to environmental activities. 43.1% of respondents said that the organization publishes the contribution of staff to the sustainable development. 31.4% of respondents claimed that the top management uses public recognition and awards for environmental efforts and the green activities of employees. In this way, the owners and leaders of the organization emphasize the importance of environmental behaviour and green initiatives. On the one hand, this practice makes it possible to meet the needs of employees in recognizing their results and contribution to the implementation of organization environmental policies. On the other hand, it is a good example for other employees to follow.

27.5% of respondents indicated that the organization encourages the receipt of certificates and awards rewarded to employees by external organizations for green behaviour. This practice is evidence that the owners and leaders of the organization foster a green lifestyle and green behaviour that goes beyond the organization and does not bring obvious direct benefits. At the same time, the green lifestyle and green behaviour of employees as conscious and socially responsible citizens contribute to the sustainable development of both the country and society as a whole.

An efficient method of encouraging employees to green behaviour and ecological initiatives is to promote employees who, in addition to professional and leadership competencies, have competencies in environmental management. This practice is good for several reasons. Firstly, it allows creating a sustainable (green, environmentally friendly) corporate culture. Secondly, such managers focus on green activities and encourage environmental initiatives of their subordinates. Thirdly, this practice promotes the development of green career skills and competencies in environmental management. Despite the effectiveness of this method of encouragement, only 13.7% of respondents said that the organization promotes employees who have competencies in environmental management. This does not contribute to the spread of green practices in various functional areas of the organization.

An efficient method of motivating employees to green activities is to encourage them by goal setting. At the same time, the motivational potential of goal setting increases in the case of involving employees in goal setting and the development of indicators that characterize the results of environmental activities. However, this method of encouragement is also not widely used in practice. 32.3% of respondents said that the organization develops goals and indicators that characterize the results of environmental activities. 29.4% indicated that employees participate in setting goals and indicators that characterize the results of environmental activities and discuss ways to improve them.

A significant factor influencing staff motivation for green behaviour is a sustainable (green, environmentally friendly) corporate culture. Slightly less than half of the respondents said that the organization develops a stable corporate culture, which is a good indicator. This practice also helps to attract employees with green competencies and share the company's values of resource efficiency, environmental safety and sustainable development. The results of the survey confirmed the working hypothesis: the practice of motivating staff to green behaviour and environmental initiatives in Ukraine has not become widespread (H).

Conclusions

According to the survey, half of the respondents said that the organization encourages environmental initiatives. At the same time, owners and managers of organizations prefer intangible rewards of encouraging employees to green behaviour and ecological initiatives. Although intangible rewards are more common in encouraging employees to participate in environmental activities than tangible ones, the practice of using them is still mediocre. As a result, owners and managers need to pay more attention to both tangible and intangible incentives of encouraging employees to environmental activities. Unchanged tangible rewards of encouraging employees to participate in environmental activities remain increasing wages, paying bonuses, providing social benefits. Among the intangible rewards should be the publication of staff contributions to sustainable development, public recognition and awards for environmental efforts, green activities, encouraging the receipt of certificates and awards rewarded to employees by external organizations for green behaviour etc. An efficient method of encouraging employees to engage in green activities and environmental initiatives is to promote employees who have competencies in green management. Green corporate culture and green leadership are efficient factors that motivate staff to behave green.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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Safeguarding Built Heritage: Economic and Financial Aspects

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Abstract: The architectural heritage is one of the structural elements of the nation with an enormous energy potential for spiritual development and national consciousness in the multitude of nations, and ethnic groups in the world; as well as an anchor in the wave of change generated by the globalization process. A major impediment to safeguarding the pact is the lack of financial means. The protection and maintenance of architectural monuments were and are expensive. In this research, the authors set out to examine the experience of different countries on how to finance rehabilitation, restoration, conservation, maintenance and/or revitalization of built heritage. Economic aspects of heritage safeguarding applied in the Netherlands, Romania, Russia, Turkey, the USA are examined. Economic and financial measures for safeguarding heritage are identified at the country, municipality (locality) and object level. The state of the existing built heritage in the municipality is analyzed. Chisinau, the capital of the Republic of Moldova, has the economic situation and the existing potential within the current legal framework. The correlation between the state of the object, the type of intervention required and the potential, sources, and financing modalities are highlighted. The opportunities and impediments to the implementation of economic and financial measures to safeguard the heritage in the conditions of the Republic of Moldova are assessed.

Keywords: Financing sources, Taxation, Financing schemes, Project, Legislation

Introduction

Safeguarding shall be taken to mean the identification, protection, conservation, restoration, renovation, maintenance and revitalization of historic or traditional areas and their environment. (UNESCO, 1976) The problems of safeguarding the built heritage were brought to the attention of the society at the beginning of the twentieth century and pointed out in various international acts such as: International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter 1964) (INCOMOS, 1965), which offers wider possibilities for the application of the principles of restoration to the specific character of the architectural heritage of different countries, Convention for the Protection of Cultural Property in the Event of Armed Conflict with Regulations for the Execution of the Convention 1954, which by the second protocol provides for the necessary safeguard measures to be carried out in peacetime (UNESCO, 1999), Convention concerning the Protection of the World Cultural and Natural Heritage 1972, which provides the establishment of a Fund for the Protection of the World Cultural and Natural Heritage of Outstanding Universal Value, called „the World Heritage Fund" (UNESCO, 1972). Assistance granted by the World Heritage Committee may take the following forms: studies concerning the artistic, scientific and technical problems raised by the protection, conservation, presentation and rehabilitation of the cultural and natural heritage; provision of experts, technicians and skilled labor to ensure that the approved work is correctly carried out; training of staff and

specialists at all levels in the field of identification, protection, conservation, presentation and rehabilitation of the cultural and natural heritage; supply of equipment which the State concerned does not possess or is not in a position to acquire; low-interest or interest-free loans which might be repayable on a long-term basis; the granting, in exceptional cases and for special reasons, of non-repayable subsidies.

The World Heritage Committee makes decisions on the amount of the budget of the World Heritage Fund as well as on its use. The World Heritage Fund amounts to 5.9 million dollars for the biennium 2022-2023, plus 0.4 million dollars for Emergency assistance as defined in article 21.2 of the World Heritage Convention. (UNESCO, 2022). In 1976 the Recommendation concerning the Safeguarding and Contemporary Role of Historic Areas (UNESCO, 1976) were adopted. They include the general principles and methods recommended for safeguarding the historical heritage and the specific measures required by each state are established independently according to the legislative and constitutional competence, its organizational and economic structure. Chapter IV, the Safeguarding measures, comprises the Legal and administrative measures and Technical, economic and social measures. We can currently discuss the following possibilities for economic stimulation of the safeguarding of cultural heritage:

- Subsidies at different levels;
- Grants;
- Fiscal incentives;
- Lotteries;
- „Percentage philanthropy";
- Involvement of religious organizations as partners;
- Involvement of non-profit organizations.

Grants can be awarded either from the local or international sources (e.g. (European Commission, 2022) (UNESCO, 2022), from budgetary or non-budgetary sources. For example, part of the costs of restoration work can be reimbursed or the owner may be subject to additional tasks to ensure access (Italy, United Kingdom, France, Spain) (Rubinstein, 2016). Several EU funding programs support cultural (architectural) heritage under the current Multiannual Financial Framework, the EU's multiannual budget covering the period between 2021 and 2027 (EU, 2022):

- European Social Fund Plus (ESF+) (Programme: Cohesion Policy) has a budget of €99.3 billion for the period between 2021 and 2027 and offers support in the form of grants through the implementing organization EU Member States and European Commission.
- SME window (Programme: Invest EU). The total budget includes EU Budget guarantee of €6.9 billion out of total Invest EU budget guarantee of €26.2 billion. Support in the form of financing (loans, guarantees, co-investments, etc.) is proposed over the period 2021 – 2027 through implementing organization European Investment Fund and other implementing partners.
- New European Bauhaus (Programme: New European Bauhaus) offers support such Grants or Financing (loans, guarantees, co-investments, etc.) for the period 2021 – 2027.

In many countries, the possibility of preferential taxation is integrated into fiscal policy, and the options for subsidies and tax exemptions are unique and used differently in each country. Tax incentives apply not only to investors, but also to those who restore historic properties for their own use. As the value of property increases after the restoration work, so does the property tax, whose rates are very high in European countries. However, taking into account the costs incurred, a system of maintaining the same tax rate until the restoration is carried out. The right to tax cuts can be offered, for example, to a group of companies that support projects to revitalize the architectural heritage, historical sites. For the first time, the tax cuts were introduced in 1976 in the US and, as a result, the restoration of historic monuments has become 13-28% cheaper for homeowners than the demolition and construction of a new building in its place, while before the adoption of the law was 4-7% more expensive. In 1981, a law was passed that provided for a 25% tax cut for investments in the restoration of historic buildings (in 1986, the cut was reduced to 20%) (Rubinstein, 2016).

In addition to charity, sponsorship and a variety of tax preferences, there is the international experience in successfully attracting additional sources of support for cultural heritage. The national lotteries, endowment funds or investment funds, "percentage philanthropy" and marked taxes are the most notable. In many countries (UK, Canada, Italy, Germany, Finland, etc.), a part of the lottery proceeds is used to fund cultural heritage. In developing their national lotteries, Italy and the United Kingdom have placed particular emphasis on raising additional resources for a variety of projects that support the conservation and promotion of local, regional and national heritage.

Since the late 1990s, a number of European countries (Hungary, Lithuania, Poland, Romania, Slovakia, Italy, etc.) have developed the institution of "percentage philanthropy", based on the principle of "tax allocation", which allows citizens to contribute 0.5% to 2% for beneficial social purposes. It is a public spending mechanism that allows taxpayers, within certain limits, to allocate financial support to the social and cultural sphere from income tax paid, without increasing the tax burden or making additional contributions.

An important possibility is the involvement in partnership of religious organizations in cultural heritage conservation activities. Church institutions are responsible for their property and are subject to protection obligations. For example, the Swedish Law on Cultural Heritage prohibits any major structural changes to church buildings built before 1939 without the permission of the provincial administration. Every country has a rich history and unique culture, including an exceptional architectural heritage that it tends to preserve as much as possible for future generations, but the international practice proposes various approaches to the conservation of damaged, degraded, inadequately managed real estate.

Financial Aspects of Safeguarding Practiced in Some Countries

Netherlands

The financing of the architectural heritage in the Netherlands is clear, transparent and accessible. The government provides grants and loans for the conservation and restoration of registered national monuments. Owners expect simple rules and regulations from the government, advice and information. There are three main schemes for financing the architectural heritage (Table 1) (Moraru, 2021).

Table 1. Three schemes used by the Dutch government to finance architectural heritage

I. Scheme for redevelopment and designation of a new use	II. Conservation scheme of listed monuments	III. Loans from the National Restoration Fund
Subsidy to support energy feasibility and sustainability studies, and redevelopment plans, respectively. The studies are performed by experts, their services being paid at market prices.	Subsidy to support preventive and regular maintenance. Owners of monasteries, castles, windmills and lighthouses are eligible for grants. Owners of residential property, according to separate regulations, also have access to specific subsidies.	Loans are offered at national and regional level, at a low interest rate and at national level at a market rate. For churches and schools, funding is also offered at reduced rates.

Scheme 1. The grant for the redevelopment and designation of a new use of architectural heritage objects may be used for national, provincial, municipal monuments and buildings of cultural or historical significance (even if they do not have the status of a monument). The grant can be used for emergency measures to prevent the degradation of the monument, namely research to find new uses of buildings for which a new use is difficult to find. This category includes churches, schools or industrial complexes, with the exception of residential buildings. That grant shall include feasibility studies and sustainability studies. For each grant period (current period is 15 September 2021 - 1 October 2022), the following are available:

a) 1,7 million euros for feasibility studies;
b) 0,5 million euros for sustainability studies.

The grant for a feasibility study covers 70% of the costs of this study and will be:

a) At least 10 000 euros and at most 25 000 euros per application for a feasibility study;
b) A maximum of 4 000 euros per application for an energy sustainability study.

Scheme 2. Maintenance costs for monuments that are not used as dwellings can be covered by *the subsidy for the conservation of national monuments*. The most important conditions of the Sim conservation scheme are:

- Owning a non-residential national monument (registered museums, churches, mills, water towers, etc.) or an archaeological or natural monument (“green”).
- Evidence of maintenance of the object, based on a conservation plan of 6 calendar years, with rational and pragmatic expenses planned in each period.

The maximum amounts available each year for the grant are:

a) For national archaeological monuments: 800 000 euros,
b) Green monuments: 8.3 million euros,
c) Other national monuments: 55.92 million euros.

The eligible costs on the basis of which the amount of the grant is determined are a maximum of 3% of the reconstruction value, the grant may cover up to 60% of the eligible costs. For an object, the eligible costs are a maximum of 60,000 euros, except for green monuments and national archaeological monuments. Subsidies for residential monuments are a separate category. Private owners can apply from 1 March to 30 April each year for a subsidy for the maintenance of national residential monuments. *The Cultural Heritage Agency* deals with the grant application. Applications must be accompanied by detailed photos and invoices. For costs higher than 70 000 euros, an inspection report is required before work can start. According to the Agency for Cultural Heritage for 2020, about 111.2 million euros were granted through the grant for the conservation of national monuments, of which 68.2 million euros - for non-residential monuments and 43 million euros - residential. In 2019, the total value was 115.6 million euros, of which 79.1 million euros - conservation of non-residential monuments and 36.5 million euros - residential.

Scheme 3. The National Restoration Fund- Restauratiefonds (FNR) provides loans. To date, more than 13,000 monument owners (both economic agents and individuals) have been supported by several forms of low-interest loans. Loans are divided into categories at national and regional level (Table 2).

Table 2. Types of loans offered by the National Restoration Fund

Nationally	Regionally
- with a low interest rate • The loan for the energy sustainability of monuments is a low interest loan (1.0% - 1.5% in 2021), which is granted to the owner of a national monument, for a maximum term of 30 years. As a guarantee the monument is mortgaged, additional guarantees may also be requested. The value of the loan depends on the investment in energy savings. Repayment is made by constant annuities. • The PLUS monument energy sustainability loan is a low-interest loan that is granted to owners of national monuments who are not registered as residences, for a maximum period of 30 years. - with a market rate • The bridging business loan is a short-term loan with market interest. This funding can be offered in 2 cases: o Coverage for the period in which the owner has 2 buildings with monument status, one of which is sold and the other purchased (but also renovated); o To refinance future grants. Reimbursement is offered with 3 types: linear (equal series); constant annuities; only interest, and credit - at maturity. The maximum term for a Bridging loan is 2 years in equity and 5 years from grant. • Mortgage of the monument is available at market conditions, when there are no options for low interest financing (described above). The maximum term for a loan is 15 years.	- with a low interest rate • The Amsterdam Restoration Fund credits to the owners of municipal monuments in Amsterdam for a maximum period of 10 years at an interest rate on new loans granted under the current conditions of 1.5%. • The Cultuurfonds mortgage is offered for the restoration of municipal, provincial or government-protected monuments, for a period of 30 years, at an interest rate on new loans granted under the current conditions of 1.5%. - for churches and schools • Loan for energy sustainability of schools (10 years, interest rate 1.5%); • Loan for nationally listed churches (15 years, 1.5% interest rate).

Romania

In Romania, Law no. 422/2001 on the protection of historical monuments, Article 10 (3) provides for the expropriation of historical monuments and their protection areas or the establishment of easements. Given the large number of historic buildings in a state of disrepair, in 2018 the authorities decided to include the protection and restoration of national heritage buildings and the conservation and protection of degraded heritage buildings

in the category of public works. This measure offers public authorities the possibility to quickly transfer in the public domain of the state or of the administrative-territorial units, through the simplified expropriation procedure provided by Law 255/2010, the buildings classified as historical monuments, which are in a state of degradation and which require urgent repairs. These decisions demonstrate the increased interest of the state in the protection of historical monuments, the success of which depends on the concrete actions of the authorities for the restoration of the many ruined historical monuments and the funds allocated for this purpose. (Albu, 2021)

Historic buildings or those in protected areas in Bucharest have become a burden for many owners. On July 22, 2018, a decision of the General Council of the Municipality of Bucharest was published, by which the owners of buildings in the Capital can be fined 5000 - 8000 lei, if they do not rehabilitate the facades of the owned buildings. The provision is mentioned in a project of the Bucharest City Hall regarding the rehabilitation of the damaged historical buildings, where it is specified that those who cannot afford the rehabilitation of the buildings can receive help from the local public administration.

The Decision states that the rehabilitation costs will be borne by the owners of the buildings. In case they do not have the necessary amounts, they can receive help from the mayor's office if they demonstrate that the monthly income of each family member is below the average monthly salary in the economy. The owners who will not organize the reception at the end of the rehabilitation works and will not complete the technical book of the construction with the documents proving the interventions on them can be fined between 2000 and 5000 lei.

The maintenance, but especially the renovation and rehabilitation of these buildings is much too expensive. For a single building, the rehabilitation can take more than two years and the costs are high: from about 500-600 euros / m2 and up to 2000 euros / m2, depending on the architectural values that need to be restored. On April 5, 2021, the City Hall of Bucharest launched in public debate a program for the restoration of historic buildings in the Capital of Bucharest, both public and private property. The Municipal Restoration Program (MRP) will finance the design, finalization of land books, inventory, consolidation, restoration and enhancement of historic buildings, buildings located in classified architectural ensembles and in the built areas within the Municipality of Bucharest. The following categories of real estate on the territory of Bucharest that benefit from the legal regime of protection of historical monument can be included in the MRP:

a) Real estate in the public or private property of the state or of the territorial administrative unit or subunits, of the institutions or public services of central or local subordination, of the legal persons of public law;
b) Real estate owned by religious denominations recognized by law;
c) Real estate (constructions, including facades, and land) owned by natural or legal persons under private law.

For the buildings located in architectural ensembles and protected built areas included in the MRP, the applicant will constitute a real estate guarantee equal to the amount of the MACBSR (Municipal Administration for the Consolidation of Buildings with Seismic Risk) contribution for a period of 10 years. The real estate guarantee is fully recovered from the applicant together with the related interests, in case the real estate in question was alienated to another person except the Municipality of Bucharest before the 10-year period from the establishment of the real estate guarantee. On the date of fulfillment of the 10-year term, the real estate guarantee established on the real estate expires by right. MRP funding is provided from the local budget, through the MACBSR budget, within the limits of the budgetary provisions approved for this purpose, as well as from other legally constituted sources. Bucharest City Hall offers aid to owners who can pay part of the expenses. Depending on the value of the repair or rehabilitation works, the owner will pay a percentage of the total value of the expenses:

- The amount starts from5% and it can reach 75%;
- The higher the percentage, the higher the project will be.

All those who want to enroll in the City Hall program have the obligation: to declare their income; motivate the need for repair or consolidation; to release the property within 28 days of approval. The municipality will provide accommodation and undertakes to meet the deadline for completion of the works provided in the contract.

The financing of the rehabilitation of the historic buildings in Bucharest is done by co-financing:

- 60% of the total costs of the rehabilitation project are covered by the European Regional Development Fund and the state budget, of which:

  - The rate of co-financing from the European Union through the European Regional Development Fund (ERDF) is a maximum of 85%;
  - The co-financing rate from the state budget (BS) is at least 15%.
- 40% of the total costs of the rehabilitation project are to be covered by the Applicant and the Owners Association.

The local authorities have the obligation to ensure the financial resources to cover all the expenses related to the components that make up the financing application (approvals, authorizations, etc.). At the same time, the applicant is the one who will conclude contracts with the owners' association / associations for the submission and development of the project. The modalities regarding the recovery of the amounts paid by the applicant related to the contribution of the owners' association will be established by mutual agreement by the two parties, in compliance with the provisions of the legislation in force. (Albu, 2021)

Russia

The legislative framework of the Russian Federation on architectural heritage includes all normative and legislative acts governing the given field. The fundamental norms are established in art. 44 of the Constitution of the Russian Federation: Everyone has the right to participate in cultural life and to use cultural institutions, to have access to cultural values. Everyone is obliged to take care of preserving the historical and cultural heritage, to preserve the historical and cultural monuments.

The general rules are contained in the Bases of the legislation on the culture of the Russian Federation (Fundamentals of Legislation on Culture of the Russian Federation), approved by the Supreme Council of the Russian Federation on 09.10.1992, no. 3612-1(last revised on 24.04.2020). The Federal Law of 25.06.2002 no. 73-ФЗ „On cultural heritage objects (historical and cultural monuments) of the peoples of the Russian Federation" is the basic law in the field of conservation, use and state protection of cultural heritage objects (historical and cultural monuments) (last revised on 24.04.2020). It is worth drawing attention to Article 14, which includes the privileges granted to natural or legal persons who have invested their own means in the conservation of cultural heritage objects:

- A natural or legal person, who owns with lease a property object of the cultural heritage federal property, property of a subject of the Russian Federation or municipal property, who has invested his own means in works of conservation of the cultural heritage object, ... and has ensured their implementation in accordance with this federal law, is entitled to preferential rents.
- A natural or legal person, who has the right to lease a property, which is an object of cultural heritage federal property or a land within which is the object of the archaeological heritage and who has ensured the execution of works for the preservation of this object in accordance with this federal law, has the right to reduce the rent determined by the amount of actual expenditure or part of the costs.
- A natural or legal person, who owns an object of cultural heritage of federal importance included in the unified state register of cultural heritage objects (historical and cultural monuments) of the Russian Federation's peoples, or uses it on the basis of an agreement of use free of charge and performs conservation works on his own account, is entitled to compensation for expenses incurred by him, subject to the execution of such work in accordance with this federal law. (Albu S. L., 2020)

In recent years, various heritage safeguarding programs have been launched in the Russian Federation, such as the "One Ruble Per Square Meter" program and attract private investment in the restoration and conservation of objects through a long-term lease. The main conditions are: duration of the lease - 49 years; rate before operation: market rate; after operation - 1 ruble/square meter per year; repairs and restoration cannot last more than 5 years; transfer to the investor by open auction or auction (Rubinstein, 2016)

Unlike Romania and Turkey, the Russian Federation does not provide for expropriation, but for the redemption of cultural assets for which violations have been committed. he Civil Code requires the "Purchase of Improvidently Maintained Cultural Valuables". This aspect is regulated by Article 240, which provides that: "In instances when the owner of cultural valuables relegated in accordance with a law to [the category of] especially valuable and protected by the State improvidently maintains these valuables, which threatens them with their losing their significance, such valuables may by decision of a court be withdrawn from the owner through purchase by the State or sale at a public sale. In the event of the purchase of culturally valuable the owner shall be compensated their value in the amount established be an agreement of the parties, and in the event of a

dispute, by a court. In the event of the sale at a public sale the amount received from the sale shall be transferred to the owner less the expenses for holding the public sale." (Albu S. L., 2021)

Turkey

In Turkey, in order to implement the provisions of Article 12 paragraph 8 of the Law on the Protection of Cultural and Natural Assets from 21/7/1983, the Regulation on the Contribution Fee for the Conservation of Immovable Property was developed in 2005 (UNESCO, 2005), the updated version entered into force on August 22, 2015. The purpose of current regulation (Official Gazette, 2015), stipulated in Article 1, is to determine the application principles of a contribution fee that shall be imposed at the rate of 10% of the real estate tax accrued, in order to protect and evaluate the immovable cultural assets located in the areas of responsibility of municipalities and special provincial administrations. Article 7 stipulates " (2) Contributions shall be used by the Governorship on an equitable basis, taking into account the number of immovable cultural assets, the current situation, and their significance in the cultural values of the province, on the condition that the amount collected does not exceed 95% of the cost of planning, projects, implementation and expropriation works (including VAT) prepared by municipalities, provincial private administrations and investment monitoring and coordination presidencies for the protection and evaluation of immovable cultural assets, provided that the amount collected in the contribution account is sufficient." (Albu, 2021)

USA

The United States is the first country to apply the fiscal instrument for safeguarding heritage objects. The first tax reduction was introduced in 1976. If prior to the adoption of the law restoration was 4-7% more expensive compared to the demolition and construction of a new building, then after the entry into force of the new tax provisions restoration of historic monuments for owners became 13-28% cheaper. In 1981, a law was passed that provided for a 25% tax cut for investments in the restoration of historic buildings (in 1986, the deduction was reduced to 20%).

There is a Federal Historic Rehabilitation Tax Credit program in the United States. There are two types of benefits involved in this program:

- 20% tax credits - a tax deduction of 20% of the cost of repair and restoration work on historic buildings included in the National Register of Historic Places, and
- 10% tax credits - a 10% deduction from the cost of renovating buildings built before 1936 but which were not designated as historic sites.

The current system has been in place since 1986, when the tax credit was originally 25% of the cost of renovation and restoration work and was reduced to 20% during President Ronald Reagan's (Tax Reform Act, 1986).

Economic and Financial Aspects of Safeguarding the Cultural Heritage in the Republic of Moldova

In the period 2003-2006 in Chisinau, the capital of the Republic of Moldova, 977 objects with the status of protected monument of national and local category registered in the Register of Monuments of the Republic of Moldova were identified. In 2010 it was found that over 25% of them were either demolished, or were in the process of active destruction. In Chisinau, 82 objects with monument status were demolished (of which 44 were demolished in 1993-2006, and 38 in 2006-2012). 160 objects underwent illicit interventions. The total number of buildings that have suffered due to non-compliance with the legislation on monument protection is 254 objects with the status of protected monument of national and local category. (Albu S., 2020)

The opportunities for implementing financial and economic measures for the conservation of monuments in the Republic of Moldova are currently summarized in the provisions of Law 1530 from 22.06.1993 on the protection of monuments (in the editions of 2022) (Law, 1996), which provides by art. 35 that "Financing the activity on the evidence, study, enhancement, preservation, protection, conservation and restoration of monuments shall be ensured

- from the state budget through the Ministry of Culture,
- from the local budgets,
- rom the account of rent payments, including the rent for the land in the protected areas of the monuments (the amount of the rent payment is established in accordance with international norms),
- from the deductions from the benefit of tourism,
- from the income of enterprises, which hinder the protection of monuments,
- from the benefit of the state insurance bodies, in accordance with the concluded agreements,
- from the revenues and donations of the organizations that, based on their status, protect the monuments,
- from the funds and donations of some natural and legal persons, as well as
- from other legal sources".

Additionally, to these, it is allowed "in support of the activity oriented towards highlighting, studying, highlighting, saving, protecting, conserving and restoring monuments, publishing postcards, calendars, stamps, organizing tourism". De facto, we can only talk about funds allocated from the budget, quite modest amounts and money allocated through projects with international funding. In the last eight years from the state budget were allocated for restoration works by the Ministry of Culture amounts between 497.5 thousand US dollars and 2426 thousand US dollars (Figure 1), which represents 0.39% to 34% of the planned capital investments in the state budget (Table 3).

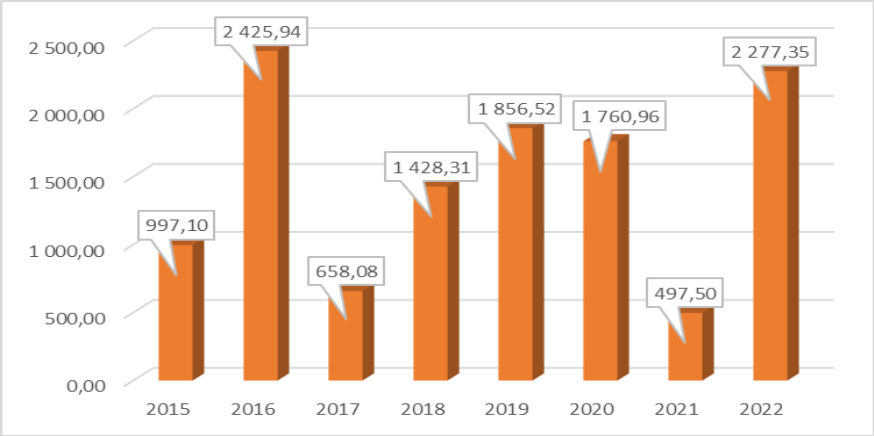

Figure 1. Capital investments for the protection and capitalization of the national cultural heritage, thousands of US dollars.

Table 3. Capital investments for the protection and capitalization of the national cultural heritage

Year	Capital investments for the protection and capitalization of the national cultural heritage, thousands of lei	Share of capital expenditures for the protection of cultural heritage in the state budget, %
2022	42 028,00	1,58
2021	8 796,60	0,39
2020	30 500,00	1,63
2019	32 628,50	1,96
2018	24 000,00	0,99
2017	12 168,00	0,89
2016	48 334,00	3,34
2015	18 761,50	0,76

Over the years, several articles were excluded from law no. 1530/1993, so since 2004 the following provisions have become inapplicable (Law, 1996):

Art. 41. - (1) The Government provides annually in the state budget *the central restoration fund* and *the central fund for exceptional interventions.*
Art. 43. - In order to materially support the works of evidence, study, enhancement, rescue, protection, conservation and restoration of monuments whose holders are natural and legal persons, the Government grants them *loans repayable in installments, without interest* in cases in which they provide evidence that they cannot afford the necessary expenses.

Art. 44. - The natural and legal persons in whose property are the monuments registered in the Register of Monuments are *exempt from taxes* or, as the case may be, *partially subject to tax* according to the contract, except for income tax, real estate tax and value added tax. The tax-exempt revenues are used to finance the works of protection, conservation and restoration of the respective monuments.
Art. 45. - The state grants *facilities* (customs exemptions, tax reductions, except for income tax, loans) and *a priority regime* to natural and legal persons who produce or procure from the country or abroad raw materials, materials, equipment and necessary equipment, works of evidence, study, enhancement, rescue, protection, conservation and restoration of monuments based on the documentation approved by the Ministry of Culture.

At the same time, an opportunity for the built historical heritage is "percentage philanthropy". Starting with January 1, 2017 in the Republic of Moldova, individuals can participate in the management of public money, directing 2% of their income tax to non-profit organizations. (State tax service, 2022) Unfortunately, this possibility is not sufficiently publicized, nor used especially in the field of preserving the built cultural heritage.

Conclusion

The research of the international practice and the examination of the situation created in the Republic of Moldova allows us to highlight the existing economic and financial opportunities for the safeguarding of the built cultural heritage (Table 4).

Table 4. Economic and financial opportunities for safeguarding the cultural heritage built in the Republic of Moldova

Present opportunities	Potential opportunities
At the country level	
Subsidies	Tax incentives. Reduction of taxes depending on the cost of rehabilitation works performed in the current year
Grants	
Percentage philanthropy	Low interest bank loans
Rent payments	Expropriation
Editing postcards, calendars, stamps, organizing tourism	
At municipal level (locality)	
Subsidies	Lotteries
Grants	Low interest bank loans
Revenues and donations from organizations protecting monuments	Fines for improper maintenance
Funds and donations of individuals and legal entities	Differentiation of the real estate tax rate
At the object level	
Involvement of religious organizations as partners	Media coverage of the need to attract 2% of personal income tax.
Involvement of non-profit organizations	
Funds and donations of individuals and legal entities	

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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Investigating Factors that Affect the Acquisition of Financial Competences

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Abstract: The study and analysis of financial literacy has been the subject of numerous studies and research, either in Hungary or in an international context. The knowledge acquired in the educational system plays a key role in the formation of our financial culture. The pandemic has further intensified the reconsideration of traditional offline ways of acquiring knowledge and we have learned to use online educational platforms at lightning speed. Our current research was conducted during the pandemic and aims to assess the methodological transformation in terms of financial literacy. The way financial literacy is acquired, the method how it is delivered, the educational tools and forms utilised are perceived differently by educators and differently by students. It has always been a timely question whether the instructor's perspective and approach successfully meet the expectations of the audience. We consider it very important not only to be able to innovate the content of the curriculum, but also to bring it closer to expectations regarding the teaching methods, particularly in the field of finance. The pandemic situation has clearly highlighted the important fact that traditional face-to-face teaching can indeed innovate and offer solutions that do not necessarily require face-to-face presence. We have also seen that the lack of face-to- face presence has a negative impact on the development of human relationships and that, particularly in adult education, a form of education that does not require face-to-face presence can be more successful.

Keywords: Financial culture, Education, Competence, Financial literacy

Introduction

The main topic of our paper is the reorganisation of the education system in the wake of the pandemic coronavirus in early 2020, which is a very timely issue. The pandemic has substantially transformed the previously familiar and commonly used education system and its methodology. In the present research, we will examine the methodology of financial education. The timeframe of the research is May-June 2021, which suggests that both teachers and students have already gained considerable experience of blended learning. We also examined the educational system and the methods used by the respondents in connection with the financial knowledge they had previously acquired. We also sought to find out to what extent the respondents consider it necessary to reform financial education, to what extent the theory/practice ratio meets current student expectations, and to what extent students who are already working can make use of the knowledge they have acquired. Blended learning has already been widely accepted in the field of foreign language teaching, and several studies have been carried out, including a study by Aminuddin Hashemi and Kew SI NA 2020, who pointed out that the methodology of blended learning had made a positive impact on the development of all four skills - reading, writing, speaking and listening. Of course, the success of blended learning depends on many factors, the most frequently mentioned being the need for personal presence in a given profession or job,

but we also believe that the purpose of the person who wants to participate in a blended learning system, the level of previous education,the level of prior training, the need for the company of others who want to learn, are all important. The transformation of the education system is not only a question of content, but also of how all the relationships and information channels will be developed that will be crucial in the future life of the individual if education is mostlyonline.

Literature Review

In this section, we would like to shed light on the concept of blended learning with the help of literature, and also how different disciplines define this concept and field. "Blended learning means mixed educational methods in Hungarian." According to Sandor Forgo's definition, 'blended learning is a comprehensive info-pedagogical strategy based on learning and educational theory and methodology, which, by integrating the diverse forms of cognition and communication of human existence, provides the learner with optimal knowledge acquisition without space and time constraints through a learning support system' (Forgo, 2021). The ratio of online to face-to-face teaching methods may vary from one training area and level to another. The impact of the coronavirus has made educators aware of the range of options available to them, not realising that they were already available, but previously it was just impossible to think that they could be successfully applied to areas of education. Perhaps one of the most difficult things to achieve was to keep the level of interest in the classroom, building on techniques used in traditional training methods, which ultimately had to be adapted, and another difficulty was to address accountability. Our experience shows that we have a wide range of online tools, we are familiar with them, and they are widely used, but continuous feedback, accountability, learning stimulation and sustaining interest are areas for improvement. We believe that there is a link between financial literacy and financial culture, which is confirmed by several previous research findings, and this is also important because it is a non-negligible aspect of how households react to their financial issues and thus generate systemic risk, either interms of the functioning of the banking system or the expenditure side of public finances. A very important findingof the research conducted by Agnes Csiszarik-Kocsir and colleagues in 2021 is that 'the results suggest that the existence of financial and economic studies influences the knowledge and the perception of the impact of specific crises, including the most relevant one in the present. The results demonstrate that a stable level of attitudinal cognition is crucial for the relevance of the perception of crises and thus avoids cognitive dissonance that leads to misperception. Pinter et al. (2021) examine method of payments among the Hungarian population. The study shows people with higher education has a higher willingness to pay electronically which shows the different in financial culture among people. Since 2016 the State Audit Office of Hungary (SAO) has been playing a major role in the field of financial literacy in Hungary, mobilising 104 institutions to deliver training. In 2020, 1310,352 people participated in 122 training courses'. With the rise of technological innovations - and certainly also partly due to the COVID-19 pandemic - the proportion of training courses that include online, digital knowledge dissemination has almost doubled. In addition to the use of traditional teaching methods, situational learning solutions have come to the foregroundin 2020. The latter is particularly suitable not only for imparting knowledge, but also for shaping mentalities and attitudes, and financial personalities. (Nemeth, 2020) (Vajna Iatvanne 2015) (Molnar et al., 2021)

In addition to examining the methodological issues of financial education, Szeles & Szeles (2019) also dealt with the transfer of accounting issues and rules. The constantly appearing new information and rules make it necessary to think more thoroughly about the answers to the questions of the teaching methodology.

Methodology

Our survey was conducted online in 2021 and the questions were closed questions. The platform for completing the questionnaire was electronic community platforms, using an online questionnaire editing application. The time interval for completing the online questionnaire was one month, during which n=208 evaluable responses were obtained.

Data collected through questionnaires were processed and analysed using the SPSS statistical software package.

Hypothesis 1: Respondents value the role of money most in their own value system.
Hypothesis 2: In our multicultural world, the knowledge of technical terms in a foreign language is a particularly important factor.
Hypothesis 3: Respondents would prefer to focus on the practical part of the content of financial education.

In terms of processing, the topics were surveyed as closed questions. The majority of the variables obtained were measured on nominal and ordinal scales, which provided a good basis for examining distributions. The sample distribution was as follows: 27.40% male and 72.60% female. The mean age of the respondents was 29.87 years with a standard deviation of 9.73 years. The age of the sample varied between 19 and 55 years. Based on the data obtained, the sample covers the age groups that are most actively involved in finance and most involved in making responsibledecisions about it. Of the sample studied, 45.67% had secondary education, 23.56% had tertiary education and30.77% had a BSc or MSc qualification. The resulting distributions suggest that the sample is mainly concentrated on the respondents with secondary and tertiary education.

Results

73% of the respondents were female, with men showing a lower response rate of only 27%. 81% of those who completed the questionnaire said they were 40 years old or younger. In terms of the highest educational attainment, nearly 70% had a certificate of secondary education or higher but not equivalent to a degree. Nearly 30% of respondents also had a BSc/MSc degree.

Respondents were asked to rate from 1 to 5 the importance of career, family, friends, money and social status in their lives. For career, most respondents gave a value of 4, which, for us, represents the important content. For the importance of family, almost 80% of respondents gave the highest score, but it is interesting to note that 20% placed it in the important category but not to the most important category. However, based on this result, our first hypothesis is rejected as family received the highest score of 5 for being the most important. The role and presence of friends was considered extremely important by 32% of the respondents, 41% put it "only" in the important category and for 20% this relationship was of medium importance. So, how important is money in our lives? From the answers provided, it is very important, but not the most important. Social status, i.e., living up to the expectations of others, is less important, being the least important factor in the respondents' lives of all the factors studied, with the highest proportion of respondents (43%) rating it as of medium importance. The figure below summarises the proportion of respondents who have selected the most important indicator for each of the factors examined.

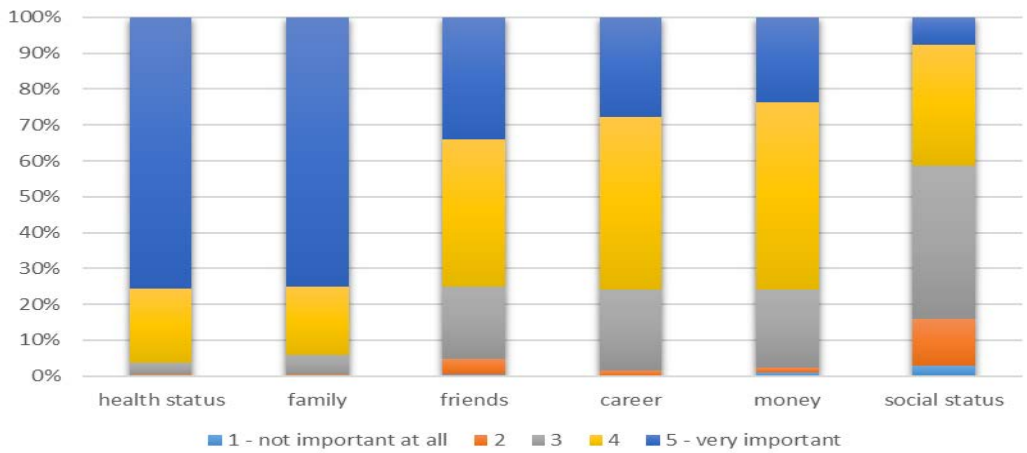

Figure 1. Distribution of respondents by the importance they attach to the following factors (N=208)

The central issue of this article is financial education and how it is perceived. As shown in the graph below, a significant proportion of respondents consider financial education important in adulthood. It is important to note that nearly 100% of respondents have already studied finance at the time of the survey or studied finance in the past. The financial knowledge acquired is not necessarily linked to previous vocational secondary education because almost 60% of respondents acquired their financial and economic knowledge outside secondary education, as confirmed by the high response rate to the next question, where 90% of respondents had acquired this knowledge in higher education. As far as teaching methodology is concerned, more than 50% of respondents had regularly encountered problem solving on a board during their studies, and this could be identified as the most familiar form of knowledge transfer. Unfortunately, 35% did not encounter situational games, a similar depressing finding is the use of self-organised assignments and the knowledge of this, i.e., students were not required to give short reviews or presentations during their training. Self-assignment at home is a very well-known and frequently used teaching method for almost 60%. As far as the assessment of financial literacy is

concerned, tests represent a high percentage, which is linked to the assessment via computer, i.e., finance can be effectively assessed and practised online, as evidenced by a high public awareness rate. The training of financial literacy shows an equal proportion of knowledge and use of word documents and excel spreadsheet, which suggests that the respondents were able to put the knowledge acquired to good use at the workplace. The graph below shows the familiarity with the use of Excel spreadsheet.

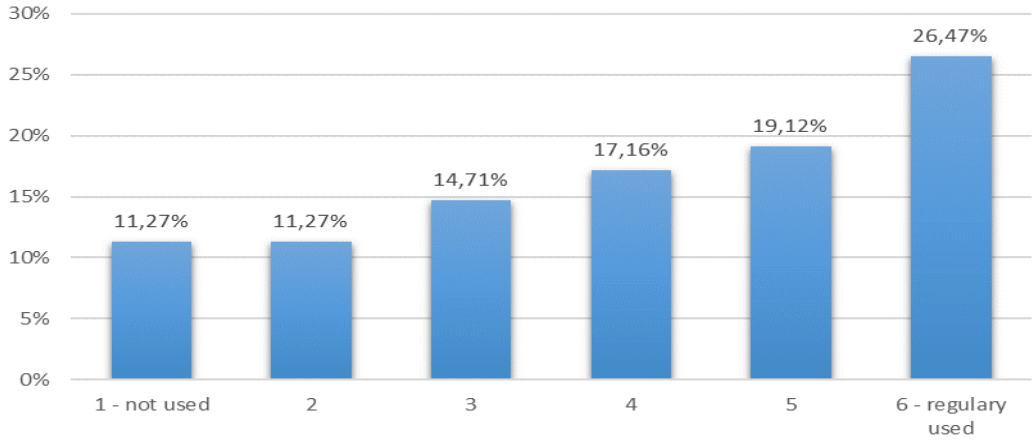

Figure 2. Have you used Excel during your financial studies? (N=208)

Unfortunately, the respondents had less field experience, which would be relevant to see how the knowledge acquired in class works at the real workplace. The use of computer programmes to help people learn various financial skills could also help them to integrate more effectively into the workplace, but 40% of respondents hadnot encountered this during their studies. Another area of questions asked concerned the teaching methods that students would like to see in their training. The figure below shows the assessment of involving an external expert.

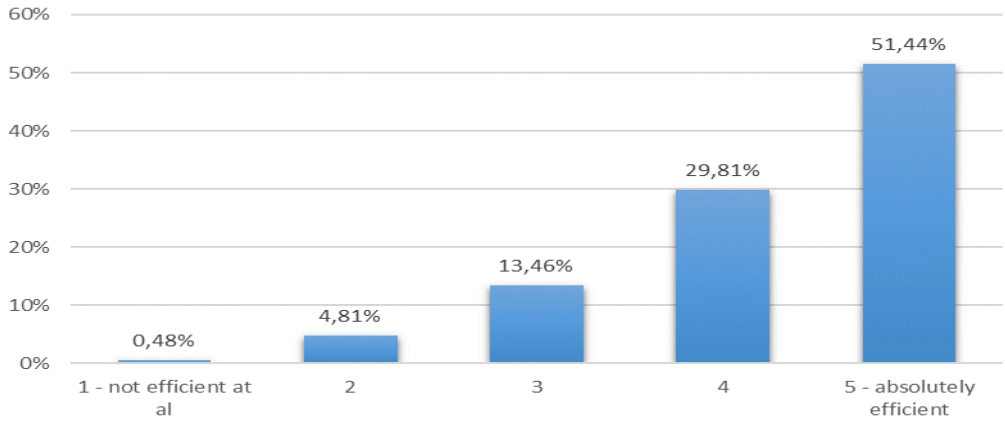

Figure 3. Distribution of respondents according to how effective they consider the lectures given by the invited experts during the training (N=208)

80% of students consider that it would be very useful to have an external expert in their training. In terms of keeping up to date, the internet was mentioned as an indispensable tool. Among the teaching methodologies, the use of the Internet was identified by 90% as an effective tool. The use of an interactive whiteboard is considered by almost 40% of respondents as a less appropriate teaching tool for teaching finance. We found it interesting how important the respondents think it is to learn technical terms in a foreign language and formulated our hypothesis 2 in this context. The graph below shows that more respondents consider it less important to know special professional terms in a foreign language,which leads us to conclude that Hypothesis 2 is not confirmed.

In terms of the knowledge acquired, respondents would consider a ratio of 40/60 to 50/50% for theory/practice tobe appropriate. Our third hypothesis is not confirmed, as respondents also prefer to learn the theoretical parts. Almost 50% of respondents thought at the time of completing the questionnaire that they would like to improve their financial knowledge in the future, even in higher education. It is important to note, however, that lack of

freetime is a major barrier to the acquisition of financial literacy for 55% of the respondents. As digital literacy becomes more widespread, as our survey has shown, the use of the internet will play a major role in the acquisition and maintenance of financial literacy in the future.

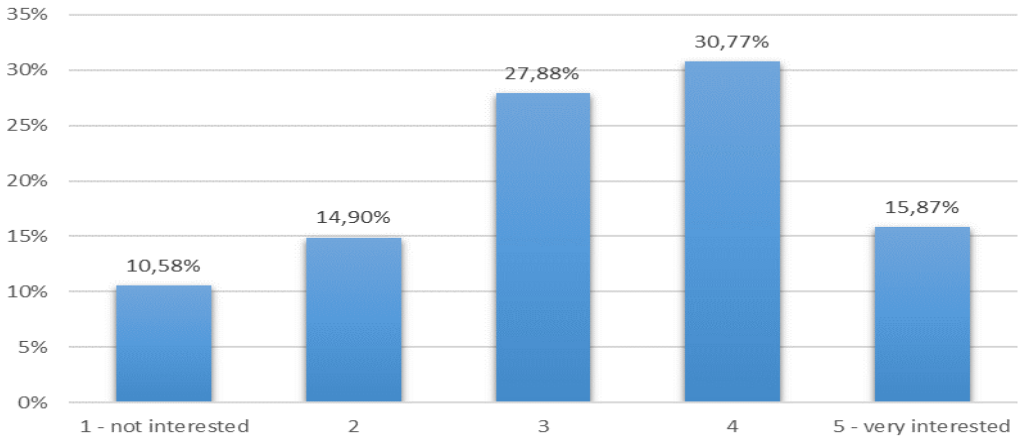

Figure 4. Distribution of respondents according to how interested they are in financial/economic knowledge in a foreign language (N=208)

Summary

Overall, it can therefore be concluded that, based on the opinions of the participants in our primary research, the need for the use of electronic methodological solutions in the field of financial education, which imply greater student autonomy, is accepted. The interactive interfaces provided by the Internet are not only successful for language training, but also for the teaching of financial subjects. Students prefer training in their mother tongue and do not require the use of foreign language terms in their training. It is expected and proven that the instructor'sknowledge should be up-to-date and solid, and that there should be sufficient flexibility. In subjects with a financial dimension, it may be important not only to update the content, but also to think ahead in terms of teaching methodology. The pandemic has shown that a wide range of digital educational methodological tools can be applied to the teaching of finance, and it is therefore worth considering rethinking methodological issues in both theoretical and practical areas.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

Acknowledgements or Notes

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Life in Rainbow Colors: Homosexuals Experiences

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Abstract: The term homosexuality has changed depending on the historical and social context. Although, in the past, significant progress was made in accepting homosexuality, the social exclusion of homosexuals is still not uncommon. Yet, the existence of certain barriers such as homophobic behavior and various forms of violence does not prevent a homosexual person from revealing their homosexual identity. That is why this research aims to examine the experiences of homosexual people regarding the quality of their lives. In this context, research questions were formulated regarding participants' experience in terms of same-sex preferences, hiding sexual orientation, feelings of exclusion, same-sex relationships and having children, and opinions about Gay Pride. The paper presents the results of research conducted in 2021 using the method of semi-structured interviews on a sample of twelve participants in the Republic of Croatia. The research has found that understanding their homosexuality represents a stressful period of their lives as well as the process of coming out, which they decide on most often during puberty and adolescence. The participants generally did not experience social exclusion, violence, and rejection. They would like to have children, and adoption would be the most likely option. In their opinion, there is no difference between raising children in a homosexual and a heterosexual family. Most of them are satisfied with their lives, and Gay Pride is considered important, especially in terms of increasing the visibility and rights of homosexuals.

Keywords: Homosexuality, Quality of life, Coming out, Children of same-sex partners, Gay pride

Introduction

Homosexuality has existed in all cultures, societies, and all nations, and ancient Greece is considered the cradle of homosexuality, although homosexuality is mentioned in ancient Egypt as well (Tomasevic, 2003). Attitudes towards LGBT people have changed depending on the historical context. In the past, individuals whose sexual orientation was not heterosexual were not accepted and had to hide their sexual orientation to preserve their lives (Itaborahy & Zhu, 2014 as ctd. in Vuckovic-Juros, 2015). Today, especially in Western countries, the situation is much better, although the lack of acceptance of the rights and equality of LGBT people do not belong to the distant past (Dudic & Silajdzic, 2019). Compared to the past, it is noticeable that today people of homosexual orientation are more likely to go public with their sexual orientation and are much better accepted in society. Nevertheless, the questions arise as to in which environments and to what extent do homosexuals feel comfortable, what is their quality of life, and is there equality for all members of society?

Theoretical Framework

Numerous studies indicate the existence of social exclusion of members of the LGBT population, whether it refers to the democratic-legal or labor-market system, the social welfare system, or the family and local community system. In this sense, the exclusion of members of sexual minorities from the democratic legal

system relates to inequality among citizens in the democratic legal order. First of all, it implies a violation of human, civil, and political rights (Sucur, 2004), therefore, the key problem is that the identity of an LBGT person is not considered as valuable as other identities. Exclusion from the labor market system implies prevented or hindered economic integration, which means impossible or hindered access to employment and economic goods (Sucur, 2004). This most often includes employment discrimination, especially for certain types of work, and discrimination in the workplace. It is not uncommon for members of sexual minorities to hide their sexual orientation in the workplace, which causes great pressure and concern (Takacs, 2006 as ctd. in Vuckovic Juros, 2015). Exclusion from the social welfare system refers to failed social integration, which means difficult or impossible access to benefits or services provided by the state (Sucur, 2004). This system includes two areas of state intervention to reduce such inequalities, namely education and health (Vuckovic Juros, 2015). If we look at the exclusion from the family system and the local community system, we can notice hindered interpersonal integration that increases the likelihood of social ties and refers to maintaining ties and relationships with family members, friends, neighbors, etc. (Sucur, 2004). This is of great importance since LBGT persons already in the family face misunderstanding and exclusion, especially if it is a traditional family, thus there is often emotional and physical violence done by their family members (Vuckovic Juros, 2015).

In this context, a very important process is coming out, which is an important moment in reinterpreting and redefining the stigmatized identity of the individual (Rich, 1993 as ctd. in Schwab & Kuhar, 2005) at any point in life. In more religious and conservative families, an LGBT person needs to be careful about deciding to come out. In such families, the LGBT person will invest considerable energy and time in the process of coming out, wanting the family to accept their new identity, due to the deeply ingrained religious attitudes of the family.

However, a religious family does not necessarily have to reject its LGBT family member, but such families need more time to accept the new identity of the individual (Kavic & Urukalo, 2013). Since reactions can be quite varied, if a society does not react the way an individual expected, this will affect their identity. Therefore, it is crucial to have the support of the environment. In this sense, if the initial experiences are negative during the process of coming out, there is a possibility that the individual will begin to conceal their homosexuality and convince themselves that feelings towards people of the same sex are not a sign of homosexuality (Seidman, 2002 as ctd. in Schwab & Kuhar, 2005).

Present data suggest that LGBT people are often victims of violence, be it economic, psychological, physical, or sexual violence, but they all most often involve various forms of homophobic behavior. Underlying all these forms of violence is the abuse of power by perpetrators who use the stigmatized position of the LGBT population in society, which makes sexual minorities a vulnerable and unprotected population (Pikic & Jugovic, 2006). At the same time, it is problematic that homosexual persons are often found guilty of crimes in which they are victims themselves, since persons who publicly show their homosexual orientation are often accused of exposing themselves to crime in this way. For this reason, part of society believes that public display of homosexuality is a provocation, so homophobic violence is sometimes seen as a justified situation (Giddens, 2007). On the other hand, victims often do not report the violence they experience due to fear and stigma of society, and sometimes they are not aware of their rights and protection options, making it very difficult to estimate how many violent events occur (Juras & Grđan, 2009).

Discrimination against LGBT people most often refers to deep-rooted homophobia and transphobia in society, threats, hate speech and obvious forms of violence, non-recognition of the right to public assembly, legal invisibility, legally unregulated status after gender reassignment, negative connotations in the media and public sector, and social exclusion (Mrsevic, 2019). They often experience discrimination in the family, which indicates the need for parenting education that could be conducted in schools, for example in the form of addressing specific topics in parent meetings, but also the need to empower LGBT people to cope with possible negative reactions of their families after coming out. Furthermore, it is necessary to provide support groups for parents and/or their children to achieve better acceptance of LGBT people by their parents and/or other family members, but also easier coping with difficulties in family relationships (Milkovic, 2013). Due to the mentioned potential situations, it was noticed that heterosexual persons and homosexual persons are more likely to suffer from anxiety and affective disorders and more often abuse addictive substances. According to Meyer (2003), hiding sexual orientation can be the cause of mental problems that consequently lead to a person's poor mental health, which greatly affects their quality of life. Factors that prevent a homosexual person from declaring their sexual identity are primarily shame and guilt, followed by fear of social stigma and physical violence that can further foster this vicious circle (Bybee et al., 2009 as ctd. In Kavic & Urukalo, 2013). All of the above is more pronounced if LGBT people live in rural areas, so such individuals more often decide to remain silent and "stay in the closet", unlike those who live in urban areas. It is for this reason that they are sometimes forced to move to the city, aiming to have a more comfortable life (Smyth, 2011 as ctd. in Kavic & Urukalo, 2013).

In social sciences, the term “family of choice” is used for all alternative forms of family life that differ from the modern heterosexual nuclear family model and play an important role in transforming the modern family institution based on heterosexual parenting (Svab, 2007). Non-recognition of the existence of same-sex communities and ignoring their rights can be compared and equated with discrimination based on sex, race, age, nationality, religion, disability, etc. Children who are members of LGBT families are often victims of discrimination, violence, humiliation, and ridicule, therefore non-recognition of such families damages children's rights, while the same rights are available to children living in heterosexual families (Mrsevic, 2009). Although most previous research (Wainright et al., 2004; Crowl et al., 2008; Biblarz & Savci, 2010; Marks, 2012; Moore & Stambolis-Ruhstorfer, 2013; Manning et al., 2014; Allen, 2015; Fedewa et al., 2015) does not find differences between children raised by homosexual parents and those of heterosexual parents, this topic still encounters many controversies. Namely, the data show that the sexual orientation of parents is not crucial nor it affects the child's development, but the environment in which the child grows up, the attention, love, and care they receive from parents are important since the biological connection between parents and children does not necessarily mean a good and quality relationship between them (Mrsevic, 2009). Therefore, parental sexual orientation is less important than the quality of family relationships and the quality of everyday interactions (Zderic, 2020). However, it should be mentioned that children who grow up with same-sex parents face the so-called phase of difficulty because they find it difficult to understand why their family is different from the families of other children. They are also ridiculed by other children because society very often does not respect/accept differences. However, despite numerous prejudices that same-sex marriages will lead to the spread of prostitution, polygamy, and incest, it has been proven that there are no rational reasons to confirm this (Mrsevic, 2009).

Furthermore, one of the important questions in this context relates to public space. Inevitably, the question arises as to how much it is allowed to show one's sexuality in public space. Any kind of expression of sexuality in public space is sanctioned by social norms, but not all sexual orientations are treated equally because it is relatively allowed to show the intimate behavior of heterosexual couples (kissing, hugging, holding hands, etc.). However, the intimate behavior of homosexual couples is completely different and is often sanctioned. Precisely because of the difference in the behavior of couples of different sexual orientations, public space can be seen as an insecure place, a place of potential violence and danger for homosexuals (Bertosa & Antulov, 2012). In this context, it is necessary to mention Gay Pride – the annual protest public gatherings of LGBT people that have been held around the world since 1970. In Croatia, this is the longest-running political protest, which is usually held every year in June, and which aims to create a solidarity-based and equal society in terms of gender and sex norms/categories, as well as a common struggle for equality and full civil and human rights. Parades of this type are most often held on Saturdays when a large number of people are staying in public space, which creates tension towards the existing semiotic systems in that space (Bertosa & Antulov, 2012). Banners that are an integral part of such parades often contain slogans written outside the rules of appropriateness set by the dominant groups because these are topics that society considers inappropriate. Therefore, such slogans are considered transgressive, especially because they intervene in the heteronormative space and turn it into a queer area (Bertosa & Antulov, 2012).

Method

Research Objective and Research Questions

The research aimed to examine the experiences of homosexual people regarding the quality of their lives in the society in which they exist. In line with the thus defined goal, the following research questions were asked:

1. What is the experience of feeling attracted to people of the same sex?
2. Do homosexual people hide their sexual orientation?
3. Do homosexuals feel excluded from society?
4. Are homosexuals prone to same-sex unions?
5. Do homosexual people want to have children?
6. Are research participants in favor of Gay Pride?

Participants

The sample consisted of twelve participants, including seven women, four men, and one person who identified as non-binary. Given the sensitivity of the research topic, there were difficulties in finding participants, so the

snowball method was applied. Participants are mostly in their mid-twenties. Although all of them come from Croatia, the place of residence of the participants is diverse – half live in Zagreb while the rest live in a settlement Sutivan on the island of Brac, in Split, Slatina, Umag, and Kastela. Most of them finished high school. Seven are employed, while five are unemployed. Almost all identify themselves as non-religious (one female participant is religious). Seven of them are apolitical, while the remaining five are left-wing.

Conducting the Research

The research was conducted using the method of the semi-structured interview from January to July 2021 on a sample of twelve participants. The protocol defined the primary topics in line with the research questions. All interviews were conducted online, mostly via WhatsApp video calls and phone calls, and lasted about 30 minutes on average. When conducting the research, all ethical standards of the research were respected. Participation in the survey was voluntary and anonymous, participants were guaranteed the anonymity of the data collected and were allowed to withdraw from the survey at any time if they wished. All participants in the study gave written consent for the audio recording of the interview and the use of the collected data in further analysis. Conversations were audio-recorded (using a sound recording application for mobile phones), the resulting recordings were transcribed and exact participants' quotes were used, in standard language or dialect, as recorded. Particular care was taken to ensure anonymity and remove information that could reveal the identity of the participant. After transcribing the interview, the transcripts were read to analyze in detail the parts that are relevant to us as answers to the research questions. The next step was to code the interview according to the topics/sub-topics that emerged during the transcript analysis. Each topic was defined by one concept that in such data analysis becomes code. In this way, the statements of the participants are summarized in codes and then grouped into categories, making sure that the categories and codes answer the research questions. Data analysis was approached by combining deductive and inductive approaches. The deductive part was related to the fact that we asked certain questions based on the current conceptual framework, while the data analysis related to this research included an inductive approach, which consisted of “building” an already defined category. In this way, we started from the individual to include the general, with the participants enriching and developing the set categories with their observations and answers. Thus, we created additional codes that were not provided in the initial framework. The final step of the analysis was to interpret the research results.

Results

The Beginnings of Homosexuality

According to the research results, half of the interviewees became aware of their sexuality at an early age when they began to cultivate certain feelings towards children of the same sex. It is at this age that the first feelings towards other people appear, however, the participants point out that at that time they were not aware of their own identity, which was formed only later, most intensely during puberty:

Hmm, well, it's hard to pinpoint that, but I believe I started to understand that part of myself during the last grades of elementary school... That is when I was about 12 or 13 years old. (P3)

Only one interviewee revealed her homosexual orientation in late adolescence:

Well, let's say about four years ago, then I actually had my first girlfriend, something more serious, and then I realized that it's something that fulfills me, that is a part of me, and that I want in life. (P6)

We were interested in their feelings when realizing their homosexuality. We tried to examine whether there are events (certain life situations, trauma, negative experience…) that have stimulated and/or intensified the feelings of the participant towards people of the same sex. Almost all interviewees believe that no event was decisive for the emergence of such feelings; only one interviewee pointed out that a certain situation may have intensified feelings towards a person of the same sex:

Well, it's not an event, but actually a woman told me about it and after 15 days I started to feel something towards her, and it was all weird to me and then I realized that this was it. (P12)

Knowing one's sexuality, whether being heterosexual, bisexual, or homosexual, is an area that individuals do not think deeply and intensely until they become aware of their first feelings towards people of the opposite and/or

same sex. For this reason, we were interested in participants' experiences that they felt when they became aware of their homosexual orientation. Most of the participants experienced feelings of confusion, fear, guilt, and shame, which is in a way expected given that young people most often grow up in a society where homosexuality is a taboo topic that is not talked about or it is mocked:

Well, mostly confused, somehow scared, wrong... I think it's hard now to go back in time and understand what exactly was going on in those years of growing up, but I believe some major reason for these emotions and conditions was due to some very traditional environment in which I grew up and by some strong action perhaps of those church views on the subject of homosexuality. Somehow when you're at that age you want to be accepted by friends and other children, but you know if you... If they find out about your orientation, you won't be able to be fully accepted and you probably won't have friends. (P3)

Also, some participants pointed out that at that time they felt completely "normal", fulfilled, and happy.

Well, I have to admit that somehow I felt fulfilled, happy… It was just like that for me, I would say everything was crystal clear, and clean and it was great. (P6)

Most of the interviewees were afraid of the reaction of family and relatives to the knowledge of their homosexual orientation, which is somewhat expected given that the family usually reacts negatively to the coming out process and finds it difficult to accept it:

That I was afraid that they would reject me, that they would expel me from the family, that…. I was more afraid of my mother's reaction than anyone else's. (P7)

Nevertheless, most of the participants do not hide their homosexual orientation, although some of them partially hide it, depending on the society, place, or situation in which they find themselves, thinking that in this way they feel safe:

No and yes… Definitely when I'm just hiding it's active when it's about some dangerous situations, so when walking in the evening on an empty, half-empty street with my partner, I certainly won't, somehow, while some unknown men pass, hold hands, or if in the club I see that we are attracting the unwanted attention of some guys who, like, think they have the right to harass us. So, uh, when it comes to some kind of security, then, unfortunately, we hide it. (P2)

Society and Environment

Since most of the participants do not hide their homosexual orientation, we were interested in when they decided on the process of coming out to their relatives and friends, what their reactions were, to whom they first confided, and whether the act of confessing their sexual orientation was stressful. Participants most often started their coming out by entering puberty when they realized that homosexuality was part of their identity, while some of them "came out of the closet" a little later, in adolescence. As for the reactions of family and friends, it is interesting that mothers reacted worse than fathers. In a traditional family, in which the father represented a "firm hand", mothers more often protected their children in front of the father. Today, in the modern family, the situation is different, yet there do not seem to be any rules, but family relationships largely depend on the parenting style. The results of this research show that mothers reacted more violently to certain knowledge about their family and found it harder to accept reality, while fathers were more open and gentler with their children. Accordingly, fathers were more likely to take a positive, neutral, or indifferent attitude toward their children's homosexual orientation, while mothers were in a state of shock and sought to refute and/or deny what was said:

My father accepted immediately, all that mattered to him was that I was happy, and he supported me there completely, while my mother didn't at first… I had a lot of problems with that. But over time she just realized that as much as she wanted to change some things, it wasn't possible because I was very firm in my views and she accepted it now, I think she had to accept it more, but she accepted it after all. (P8)

The mother was, admittedly, most of all… Completely, completely negatively reacted and went through all the stages of shock, sadness, trying to instill feelings of guilt, begging, ignoring, etc. (P2)

Almost all participants first confided in their closest circle of friends. For half of them, that moment was quite stressful, while for some participants the process of coming out was not a problem:

Well, not really... Precisely because I knew his views on it from before, so I think it was good for me to get used to coming out to other people… (P7)

Only one participant experienced a slightly worse reaction from a close friend:

And anyway, it, it wasn't a big deal, but I had a feeling that he thought this could and should change. (P4)

Given that the social exclusion of homosexuals is present in various systems (democratic-legal, labor-market, social welfare system, family system, and local community system), we wanted to gain insight into whether the participants experienced social exclusion in society, school, or work due to their sexual orientation. According to the results, most of the participants were not socially excluded due to their homosexuality:

Honestly, not, because I try to be surrounded only by people who support me and for whom my sexual orientation does not create any problems. (P1)

However, it should be noted that some of the interviewees felt socially excluded at certain times:

Well, not at work, but at school I know it's always been, you always have some people at school who make fun of other people. So whether you are gay or not, whatever, there are always those guys who, among other things, mocked me for that, but also a hundred other people for some other things. (P5)

And sometimes ... Society doesn't stop, somehow, reminding me that I'm somewhat "lower", like a third-class citizen, and that can be depressing… (P2)

At the same time, homosexuals are often exposed to various forms of violence and belong to marginalized and discriminated groups. There is no doubt that part of society believes that homosexual people intentionally attract attention by expressing their orientation and thus provoke, which in turn leads to conflict. Our participants generally did not experience violent behavior due to their sexuality, although one of them pointed out that the cause of physical violence was his dancing in public:

Recently, a man on the road first started filming me, then insulted me, and after my insistence to stop, to delete the video, he started threatening me and I didn't want to react, bowing my head and moving on because I really don't feel like arguing any more, and then he drove to me first, after that I threw a Coffee-to-go cup I was holding over the car which pushed him over the edge, and then he came out and started attacking me. He managed to kick me twice, I suffered two blows to the head with his hand… I like to dance and sing, and then when I walk on the road like that, to shorten my time, I sometimes hop on the road and sing, so what he said as an incentive for him to start recording me, was the fact that I was dancing and singing at the time, and a kind of reaction to that when I asked him why you were recording me, he said "let it be, you're singing nicely, just keep it up, you little fagot" and that was, that was kind of the beginning of the whole, the whole thing. (P10)

Same-sex Relationship/Union

To get a complete picture of the experiences and feelings of the participants, we were interested in whether they were ever in a relationship or married to a person of the opposite sex. We thought that at least some of the participants would have such an experience because we took into account the period of the so-called "searching" and experimenting with one's own identity. As we predicted, most of the participants had experience with a person of the opposite sex, most often in the form of a relationship, while none of the participants had the experience of a heterosexual marriage. All of them were in a same-sex relationship at the time of the interview. Given that most have experience of a relationship with a person of the opposite and same-sex, we wondered if there was a difference for them between these two types of relationships. The results show that the relationship with a person of the opposite sex was a certain test for most of the participants, in such a relationship they felt insecure, unfulfilled, and without a connection with their partner, and the lack of sexual attraction was noticeable. On the other hand, they pointed out that the relationship with a person of the same sex is different because by entering into such a relationship they experienced happiness and fulfillment, and they felt more natural and freer. Conversations with the partner in such relationships were more open and deeper, especially because of similar interests and similar issues they experience as homosexuals:

In same-sex relationship, I just felt completely happy and a kind of fulfillment… Some depth of relationship that I could never find with the opposite sex, neither that nor sexual attraction… (P2)

Furthermore, the interviewees mostly did not emphasize the difference between a same-sex relationship and a same-sex union, so it can be concluded that for them it is a universal concept. However, several of them emphasize the difference where they perceive the relationship as something more informal while union represents a higher level of relationship, but also legally, life in a same-sex union, in their opinion, can be much easier and simpler:

Hm... So there is a difference… relationship is often somehow more informal while union is maybe some higher-level… (P3)

Accordingly, some of the participants believe that entering a same-sex union represents a kind of certainty that they will spend the rest of their lives with that person, a confirmation of love and trust, while other participants believe that entering such union makes life easier in terms of certain rights, such as finances, buying an apartment, but also the adoption of a child/children:

First of all, a legal act means the realization and regulation of certain rights. Then there is the romantic part, the obligation, and care for the person I am with, to dedicate myself to that person and to build a life together… I want to marry/enter union with someone I can imagine in the long run at that moment, that is, such as with my current partner. (P2)

Almost all of the interviewees think that there is certain discrimination against same-sex union, and they cited the mentality of the society in which they live as the most common reason. Since none of the participants had the experience of entering a same-sex union, we asked them what the reactions of their family, friends, and colleagues would be to such an act. The participants mostly think that the reactions would be positive and approving:

Well, we have talked about it many times already and they would be absolute supportive to it, in every sense. (P1)

However, some interviewees point out that if they informed their parents, the reaction of one or both parents would not be positive and approving:

My mother would be indignant... Very likely, just as she is now pretending that the situation is the way it is not... I think she would completely ignore that aspect of my life. Father would be happy, very likely, because I am happy and that's it. (P7)

Children of Same-Sex Partners

Considering the current discussions on the life of children in same-sex unions, we were interested in whether the participants want to have a child/children or whether they think about it at all. According to the results, most of them have a desire for a child/children, but several participants still do not know and/or are not sure and it is too early for them to think about such topics as their lives are not currently shaped as they should be. Regarding the best way to have children, most of the participants emphasize the possibility of adoption and a few of them mention the possibility of artificial insemination. They believe that adoption is a very noble and humane act, and the possibility of artificial insemination and sperm banks are achievable thanks to human progress and the development of science:

Well, I believe adoption is the best way. Many children live in orphanages and family homes. I think this is one of the noble things that any couple or individual can do to give an abandoned child a home or a better future... (P3)

Although almost all participants have a very positive opinion on adoption and point out that this is the most likely way to have children, some still point to certain problems that exist during such a procedure in the hope that such issues will be resolved as soon as possible for the benefit of parents and children:

Well, adoption… I think it's very nice, very noble, but I think there is a huge problem in Croatia because we all know that the system in our country is a disaster and that people who meet all the conditions to have children and who would take care of them and everything, they have to fight for years and years and it's about the persistence of the people who decided to adopt because to spend 5-6 years to adopt a child I finally think it's a little too rigorous, of course, it should not be given to everyone, but I think it should be much faster and much

more efficient because all the time while they are struggling with this system, this child is kept in the orphanage for as many days and that is not the solution. (P11)

Furthermore, all interviewees believe that homosexuals are as capable as heterosexuals in raising children, emphasizing the ability of homosexuals to prepare children for certain life situations, those with which heterosexual parents do not have problems:

Of course, I think, I even think that maybe in some things they are better, because we have a lot of examples of domestic violence, violence against women, against children, and I think that people who can't have children, whether hetero couples or homosexuals, and who long for it, they will do their best to make that child happy. (P6)

Nevertheless, most of the participants believe that there are differences in the upbringing of children in same-sex and heterosexual families, but in the context of the society in which they live and the mentality of people. Although they believe that there is no difference in terms of providing love and care for them, they are aware that children of same-sex partners would be viewed differently than those of heterosexual partners and believe that parents should prepare children for such situations:

I think they exist only because we live in this climate, but there shouldn't be differences because, me for example, if I had my child here, I know that child would be from an early age, let's say, discriminated against and strangely viewed because, like, you have two moms, while in other countries it is not like that, it is a completely normal thing and all children are equal. (P6)

For this reason, all participants believe that children raised within the same-sex union will be exposed to some kind of peer discrimination, but also point out that this is much less represented today than it used to be. They emphasize that society is still progressing for the better and that it is possible to reduce the possibility of discrimination through a quality education system, whereby children in schools should be educated about homosexuality in the right way. They also believe that parents have an important role in this process of progress, considering that children behave the way they are socialized at home, so if their parents raise them in the right way, in the future this discrimination should be less and less prominent:

I think there could be, however, a lot of children exposed to peer violence and children need to be educated on how to stop doing this, how to have zero tolerance for violence, and we should not worry about whether a child would be abused. (P9)

Satisfaction with Life and Activities

Although all interviewees were quite satisfied with their lives at the time of the research, some of them pointed out the tendency to improve certain aspects of life (e.g. financial situation, self-employment, education):

Well, I would like to improve in terms of myself as a person achieving my goals, to achieve my plans since I am still young, but in essence, I am satisfied and appreciate what I have. (P8)

Well, at the moment, the way things are, right now, like this second, it is exactly what I set out to do, but in the future, like, we'll see, I'll finish college first and then we'll think further. (P11)

Interestingly, half of the interviewees lived outside the Republic of Croatia at some point in their lives, so we tried to examine whether they notice differences in the quality of life in different environments about their sexual orientation. Most of the participants have very positive experiences of living in countries such as Spain, Ireland, the Netherlands, Germany, and Austria, which, in their opinion, are more advanced and open than Croatia on many issues, including homosexuals and their rights. They stated that they felt much more accepted and freer in those countries:

So since the first country I lived in was the Netherlands, the impression was completely different. I lived in Amsterdam and I was surprised by how different it is from Croatia in terms of these personal freedoms and existence as a sexual minority. It's quite a more open society, more tolerant, and that's where I lost that ubiquitous fear of physical attack and the like. Yes, I think staying there in that field helped me a lot. (P3)

However, some participants cited the example of life in Bosnia and Herzegovina and do not like to remember that period because they felt worse than in Croatia, they noticed a much greater tendency to prejudice and homophobic behavior:

Ah, I think that BiH is one of the few countries that are worse than Croatia in this regard, it generally has lower living standards, people are more prone to prejudice, and still feel the effects of war, political and national divisions, and so on... (P4)

At the same time, half of the participants who do not have experience of a long-term stay outside Croatia would like to experience life in a foreign country, most often choosing Sweden, Austria, France, and America. As the most common reasons for choosing these countries, they pointed out the knowledge of a foreign language spoken in that country (English as the main language or a language well known to the majority of the population), the possibility of enrolling in a college, and employment. They think that life outside of Croatia would be better and more comfortable in terms of their homosexual orientation and that in some large and developed cities, it would certainly be easier for them, at least in certain aspects:

Well, I think it would be... Because I think it's easier in foreign countries... So apart from the fact that of course there are bigger cities and more people, it's more represented, but also more accepted. I think this mentality of ours in Croatia is simply like that and we are brought up to be too preoccupied with other people and not our own lives, while in foreign countries they somehow don't have time for such things. Of course, there are some small communities everywhere where there may be discrimination of some degree, but I think they are better and more developed in this regard than Croatia. (P8)

We also touched on the Gay Pride, which most of our participants consider extremely important in terms of increasing the visibility and rights of homosexuals, aiming to achieve equality in society:

I think that every kind of representation and increase of visibility of gay people in society is important, and the Pride especially because you are drowned in a mass of people who have experienced at least some similar struggles with yours and I think that feeling of support is invaluable. (P4)

On the other hand, some of them believe that Gay Pride is not necessary and that it “rocks the boat”. They believe that such a protest will not change anything for the better and that by participating in the Gay Pride, individuals are exposed to unnecessary risk:

Aaa, it's a nice event, but I also think that there shouldn't be so much noise, I would organize it, that Pride, as a big gathering, barbecue, and not a protest practically all over the city ... I think that it doesn't achieve anything anymore, that we, that they have already achieved as much as they could with that, that now we just need to work on society, stay here as much as possible, not to run away, show by our example that not like every gay has to be feminized. (P11)

Conclusion

Defining the concept of homosexuality as we understand and use it today has taken shape over several centuries. In the past, people of homosexual orientation used to hide their sexuality mostly for their safety because they often experienced psychological and physical violence. Today, however, the situation is somewhat different, although this does not mean that homosexuals still do not encounter certain problems and condemnations. It is for this reason that this paper aimed to investigate the experiences of homosexual persons regarding the quality of their lives.

After analyzing and interpreting the data collected during the interviews with the research participants, we concluded that the first feelings towards a person of the same sex occurred in kindergarten and puberty and that no special life situations were crucial for their occurrence. When realizing their homosexuality, they mostly felt confused, scared, guilty, and afraid of the reaction of the environment, especially their family. Despite certain fears, the participants do not hide their homosexuality, and they most often “come out of the closet” during puberty and adolescence. Discovering their homosexuality was quite stressful for them, but despite that, they mostly did not feel social exclusion from society, most of them were not victims of violent behavior and did not feel rejected. Most had the experience of a relationship with the opposite sex followed by learning about the existence of feelings towards people of the same sex. The participants believe that there is not much difference between a same-sex relationship and a same-sex union, yet entering a same-sex union still represents certain

security for some of them, both emotionally and financially. Most want to have a child/children, and the best way for them is adoption. They believe that same-sex partners are just as capable of raising children as heterosexuals. Finally, the participants are mostly satisfied with their lives, although, given the experience of living outside of Croatia, they believe that in some European countries, homosexuals are more accepted and freer, which greatly affects their quality of life. Finally, based on the presented experiences, it can be concluded that there has been a shift compared to previous years, but there is still a lot of room for further education, aiming to eliminate gender-based discrimination and to accept diversity.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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