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Examining the 4th Grade Curriculum in the Context of Digital Competence

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ABSTRACT: As technology develops extremely fast, tools such as computers, internet, and mobile phones shape our lives. Societies are trying to keep up with the changes brought by technology. In this context, digital citizenship is a new dimension of citizenship that has emerged thanks to the developments in technology. In the Curriculum, "Mathematical Competence and Basic Competencies in Science/Technology" and "Digital Competence" have been determined as competencies related to digital citizenship. The purpose of this research is to examine the 4th Grade Curriculum in the context of digital competence. Document analysis technique, which is one of the qualitative research methods, was used in the research. The obtained data were analyzed by content analysis technique. When we look at the findings, it has been determined that digital competence is reflected in the achievements at a rate of 5.0% in all curriculums.

1. INTRODUCTION

Effective use of information and technologies has become a distinctive feature of modern societies (Fraillon, Ainley, Schulz, Friedman & Gebhardt, 2014). Especially since the end of the 90s, there has been an impressive growth in the field of communication technologies. While the number of mobile phone subscribers worldwide reached over 7 billion in 2016, the number of internet users reached 3.5 billion (World Bank, 2018).

In line with the developments in technology, the concepts used to express the competence of individuals in the field of technology have also changed. In recent years, many expressions such as information and communication technology skills, technology skills, information technology skills, 21st century skills, information literacy, digital literacy and digital skills have emerged regarding the use of digital technologies. One of the newest emerging concepts regarding technological skills is the concept of digital competence (Ilomäki, Kantosalo & Lakkala, 2011).

Eight key competencies for personal development, active citizenship, social inclusion, and employability in a knowledge society have been identified and defined by the European Framework of Lifelong Learning Key Competencies (Official Journal of the European Union, 2010). Key Competences ("Key Competences"): 1. Communication in the mother tongue, 2. Communication in a foreign language(s), 3. Mathematical competence and basic competencies in science and technology, 4. Digital competence, 5. Learning to learn, 6. Social and civic competences, 7. sense of initiative and entrepreneurship, 8. cultural awareness and expression.

Primary and secondary education should support all young people – including people with disabilities – to acquire these key competences for further learning and working life.

In today's world, the basic life skills that will be taught to students cannot be considered independently of "Digital Competence", which is among the 21st century skills. At this point, eight key competencies within the scope of the "Regulation on the Procedures and Principles Regarding the Implementation of the Turkish Qualifications Framework" published by the Ministry of National Education in 2015 have been included in the curriculum at all education levels. The inclusion of digital competence in the program is also in line with the proposal of "The State of the World's Children: Children in a Digital World Report" published by UNICEF, "Children should be online in a conscious and safe manner and digital literacy should be included in curriculum from early grades" (UNİCEF, 2017). The purpose of this research is to examine how the distribution of 'Digital competence' competence in 4th grade textbooks is according to units and achievements.

2. MATERIAL AND METHOD

2.1. RESEARCH PATTERN

In this research, M.E.B. In this study, which aims to determine the achievements in Turkish, Social Studies, Science and Technology, Mathematics, Music, Body, Traffic, Visual Arts, Religion, "Human Rights, Citizenship and Democracy" and Foreign Language Curriculum on its page, one of the qualitative research methods " Document Review Method" was used. Document analysis includes the analysis of written texts that include events or facts at the center of scientific research (Yıldırım ve Şimşek, 2011).

In this study, which was carried out using the qualitative research method, purposive sampling was preferred in the formation of the study group. In this context, easily accessible case sampling, which is one of the purposeful sampling methods, was used. The reason for choosing this sample is to provide speed and convenience to the researcher. In this study, the data were collected by M.E.B. It was obtained by examining the curricula of all the courses on the page.

2.2. ANALYSIS OF DATA

Content analysis was used in the analysis of the data in the research. Content analysis is a research technique used to draw systematic and unbiased conclusions from certain characters identified in the text (Barcus 1959; Cohen, Manion ve Morrison, 2007). In this research, content analysis was used since the Curriculums of the 4th Grade courses were examined in line with digital competence.

2.3. RELIABILITY AND VALIDITY

The reliability of the research was tried to be ensured by means of analyst triangulation. Analyst triangulation is defined as having two or more people analyze their data independently and comparing the findings (Patton, 2014). In this study, 2 experts different from the researcher determined the distribution of the curriculums of the 4th grade courses according to the units and achievements in line with the "digital competence" competency. These independent data were compared and the reliability of the research was tried to be ensured. For the validity of the research, it has been tried to ensure that the findings obtained are included in the study in a systematic way that the readers can easily understand.

3. RESEARCH RESULTS AND DISCUSSION

In this section, M.E.B. Acquisitions in Turkish, Social Studies, Science and Technology, Mathematics, Music, Physical Education and Play, Traffic Safety, Visual Arts, Religious Culture and Moral Knowledge, Human Rights, Citizenship and Democracy and Foreign Language Curriculum on the page, digital competence examined in context. The findings obtained are given below.

Table 1 According to the 4th Grade Curriculum, the "Digital Competency" rates in the learning outcomes according to the courses

Lessons	gains	Digital Competency Ratios	percentile
Turkish lesson	78	8	10.3
Social Studies Lesson	33	5	15.2
Science and Technology Lesson	43	4	9.3
Math class	71	1	1.4
Music lessons	21	2	9.5
Physical Education and Game Lesson	25	0	0
Traffic Safety Lesson	21	0	0
Visual Arts Lesson	16	0	0
Religious culture and ethics course	19	0	0
Human Rights, Citizenship And Democracy Lesson	29	0	0
Foreign Language Lesson	47	0	0

Total	403	20	5.0

When we look at Table 1, it has been determined that digital competence is reflected in achievements at a rate of 5.0% in all curriculums.

When the Turkish lesson curriculum is examined, there are 78 achievements among the 4th grade achievements, as seen in Table 1 Among these gains, it has been determined that 8 achievements at the rate of 10.3% are related to digital competence. “T.4.4.14. He uses drawings, graphics, and visuals to enrich his writings”, “T.4.3.32. Understands the message in short and simple digital texts” are examples of achievements related to digital competence.

When the social studies course curriculum is examined, there are 33 acquisitions among the 4th grade achievements, as seen in Table 1 Among these gains, it has been determined that 5 gains of 15.2% are associated with digital competence. “SB.4.4.2. Compares the past and present uses of technological products”, “SB.4.4.4. Develops ideas for designing unique products based on the needs around him”, “SB.4.4.5. Uses technological products without harming himself, others and nature” are examples of gains related to digital competence.

When the science and technology course curriculum is examined, there are 43 achievements among the 4th grade achievements, as seen in Table 1 Among these gains, it was determined that 4 achievements of 9.3% were associated with digital competence. “F.4.5.1. Lighting Technologies”, “F.4.5.4. “Sound Technologies from Past to Present” achievements are examples of achievements related to digital competence.

When the mathematics curriculum is examined, there are 71 achievements among the 4th grade achievements, as seen in Table 1 Among these gains, it was determined that 1 gain of 1.4% was associated with digital competence. “M.4.4.1.3. Uses different representations to present the data obtained” is an example of an acquisition related to digital competence.

When the music lesson curriculum is examined, there are 21 achievements among the 4th grade achievements, as seen in Table 1 Among these gains, it was determined that 2 gains of 9.5% were associated with digital competence. “Mu.4.B.6. Distinguish the basic music writing and elements (height, duration, speed, loudness) by using information supported music technologies” , “Mu.4.D.2. Creates a common music archive as a class. It is reminded of the necessity of paying attention to cyber security and ethical rules while listening to music on the internet. achievement is an example of an acquisition related to digital competence.

When the curriculum of the Body, Traffic, Visual Arts, Religion, Human Rights, Citizenship and Democracy, Foreign Language courses is examined, no acquisition related to digital competence was found among the 4th grade learning outcomes.

4. CONCLUSION

According to the results of a study conducted on secondary school students, it was determined that the students who participated in the study were mostly (85%) social media users (Öztürk, 2015). In this context, considering that today's students are referred to as digital natives, it is important to consider "digital competence" in curriculum.

When we look at the distribution of 'digital competence' according to the achievements, when we look at the gains in Physical Education and Game Lesson, Traffic Safety Lesson, Visual Arts Lesson, Religious Culture and Moral Knowledge Lesson, Human Rights - Citizenship and Democracy Lesson, Foreign Language Teaching Programs, "digital competence" It has been concluded that "competence" competence is not reflected in the achievements. In Mathematics Lesson and Music Lesson Curriculums, it has been concluded that the reflection of "digital competence" competence on achievements is low. In addition, when the achievements of the courses within the scope of "digital competence" in Social Studies Lesson, Turkish Lesson, and Science and Technologies Lesson are examined, it is seen that the highest rate of "digital competence" competence is the lessons containing the achievements. According to (Altun,2019), which contains related results, when the results of the study named "Examination of Basic Education Programs and Textbooks in the Context of Digital Literacy" are examined, it is seen that digital literacy in Turkish, Mathematics, Science, Social Studies, and Life Studies Curriculums is "digital literacy". seen as “competence”. It has been determined that the Turkish and Social Studies Curriculum includes more acquisitions for digital competence compared to other curriculums. It has been determined that the Science Curriculum is the curriculum with the least achievement in the context of digital competence. In the Mathematics Curriculum, however, no findings regarding digital competence were found.

In line with the results obtained from the research, the following suggestions can be made:

• Extending the “digital competence” competence to all learning areas.

• In this research, the achievements for the 4th grade lessons were examined. According to different classes, the gains can be examined by researchers.

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