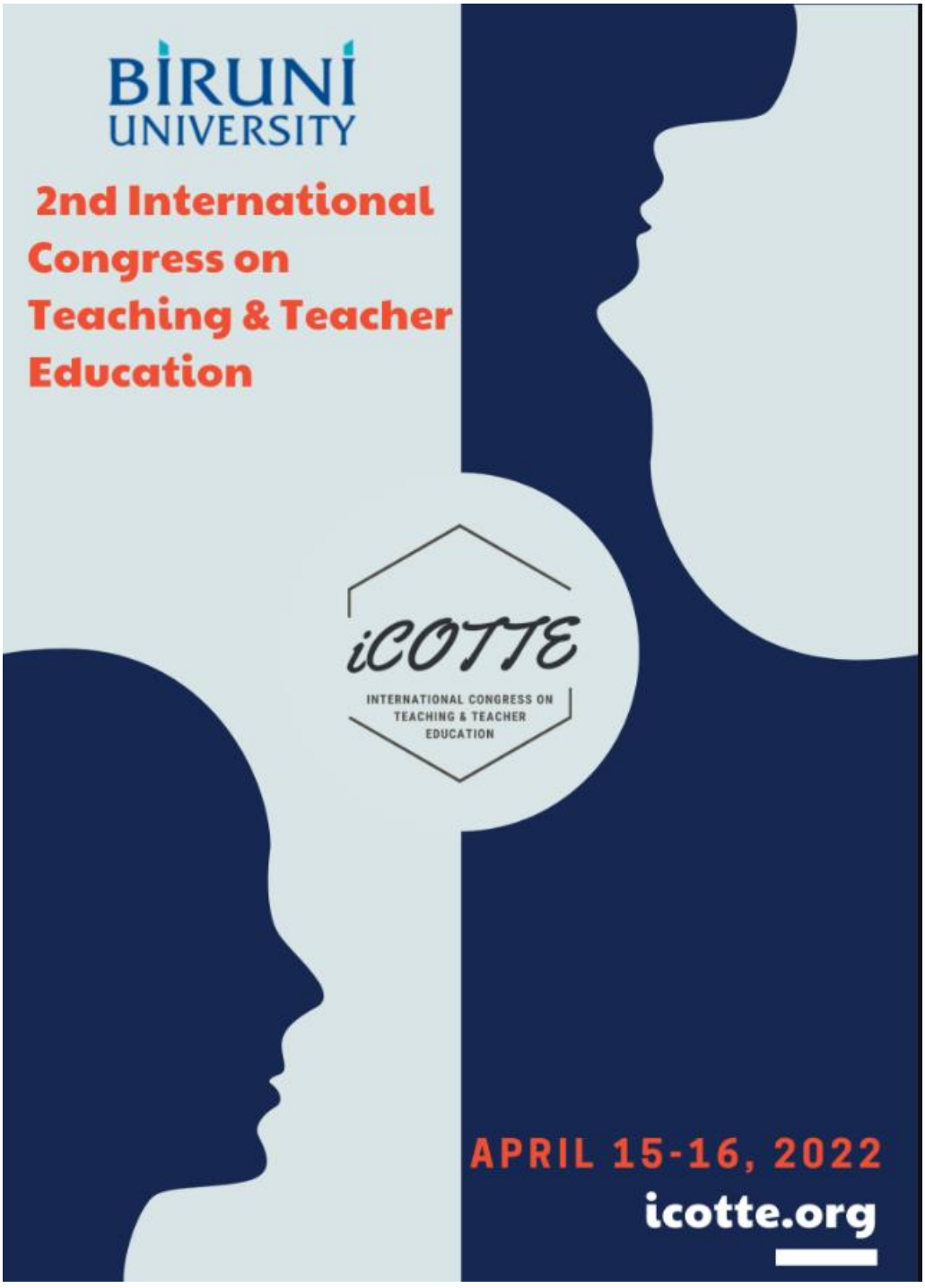
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Foreword

Biruni University the second International Congress on Teaching and Teacher Education (ICOTTE) was hosted by Biruni University.

We are grateful for the participation of all the presenters who contributed so attentively and magnificently to the success of the congress. We tried very hard to ensure that the conference programme would be well-organised and all the presenters would present without any problems in an online setting. We hope that it met the expectations of all the participants.

We are also thankful for the attendees in each session for their thought provoking contributions. We extend our warm wishes to our presenters wherever they may be around the world.

Dr. Görsev Sönmez

Chair of ICOTTE

Kadir Anıl Kara, MA & Kübra Şendoğan Erdoğan, MA

Editors

Investigating the Relations among Pre-Service EFL Teachers' Virtual Teaching Dispositions and Teaching Self-Efficacy Beliefs

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Abstract: Online education provides ample opportunities to empower learning progress through digitalized instructional activities. Teachers engage learners in online classes through different techniques to maximize remote learning. The competent online language teachers need to be equipped with certain qualifications in their pre-service teacher education when online teaching skills critically develop. Besides many others, teacher self-efficacy could associate with online teaching tendencies as professional teaching beliefs shape behaviors and competencies. This article investigated the relationship between pre-service EFL teachers' virtual teaching dispositions and their self-efficacy beliefs. To explore this, 116 pre-service teachers from a foundation university in İstanbul, Turkey attended the study. The pre-service English language teachers completed two questionnaires which were analyzed through Spearman-rho correlation. The results indicated that there was a significant relationship between virtual teaching dispositions and teacher self-efficacy beliefs. However, the study needs further evidence through regular observations and interviews to shed light on teacher educators to strengthen this connection and improve the preservice language teacher education period in the sense of higher teacher quality.

Keywords: pre-service teachers, virtual teaching dispositions, teacher self-efficacy

Introduction

In today's digital information era, online education, along with electronic learning and teaching resources, plays pioneering roles in establishing effective and sustainable learning by cutting across all the boundaries related to space, time, and matter. Virtual learning environments have various advantageous features such as being globally accessible, flexible, affordable, time saver, and providing personalized learning environments and quick access to digital resources. Having acknowledged all the interconnected contributions of virtual learning from a holistic perspective, educators have started to invest more time exploring and measuring the potential long-term outcomes that virtual learning will ensure. Despite the growing number of online teacher educations and workshops designed particularly for the successful implementation of technology, there are still deficiencies among the online teachers who are expected to skillfully incorporate technology in their classes (Scherer *et al*., 2020). Teachers need to be trained in the effective use of ICT resources and integration of content knowledge into these resources; yet these should not be the mere foci of online teaching education programs as there are also teachers' dispositions that hold the key in determining the assertive use of technology in online education (Welch & Napoleon, 2014).

Carroll (2012) defines professional teacher dispositions as the effective skills of teaching which are developed "...on behalf of the learning and well-being of his or her students" (p. 38). Dispositions underlie teacher behaviors; when they are coherently measured and observed, the relationship between

their behaviors and dispositions towards their teaching skills can become much more apparent. As an inseparable part of professional teacher development, virtual teaching is considered an important feature of teachers of the 21st century. Virtual teaching disposition can be defined as the abilities of effective teaching in virtual environments (Ungerer & Martins, 2015). As an alternative way of defining VTD, it stands for the teachers' beliefs, values, and skills that influence their critical use of technology in virtual teaching environments.

On the other hand, teaching self-efficacy is the set of beliefs of a teacher in his abilities to influence his motivation and student performance (Morris *et al*., 2017). Self-efficacy perceptions are the critical determinants of teacher actions as they develop their teaching stances and behaviors according to their perceptions. For this very reason, virtual teaching disposition and self-efficacy are prone to be related to each other. While the VTD identifies the professional teaching dispositions of teachers in virtual classrooms, self-efficacy perceptions identify the teachers' beliefs in their abilities which form the basis of their future actions. If there is a relation between their professional efficacy perceptions and virtual teaching dispositions, it may mean that they contribute to each other – the professional teaching beliefs are shaped by virtual teaching dispositions or vice-versa. In addition to the critical analysis of this potential relationship, the present study also aims to fill the gap in the field by investigating the relationship between virtual teaching dispositions and teacher self-efficacy beliefs among pre-service English language teachers.

Review of Literature

Virtual Teaching Disposition

With the advancements of technology in the digital age, online instruction and remote learning have gained significant prominence by providing the millennial generation with various opportunities to interact and collaborate as distinct from face-to-face instruction (Chung & Choi, 2021), increasing student self-regulation (Hamdan *et al*., 2021) independent of time and space (Howard & Scott, 2017), and supporting professional teacher development for higher quality online learning and teaching practices (Paesani, 2020). Research has suggested that it is essential to carefully examine and identify online instructors' responsibilities, roles, necessary skills, and dispositions for effective online teaching facilities (Kirwan & Roumell, 2015). Regarded as the important indicators of instructors' future acts in their teaching posts, professional teaching dispositions consist of a multidimensional system shaped by beliefs, values, and, more provably, behaviors. Welch and Napoleon (2014) claim that teaching dispositions underlie the behaviors of the instructors; by this means dispositions enable prediction for future teaching actions.

There are essential professional dispositions that online instructors should possess in order to establish and sustain effective and serviceable online courses. In addition to being a successful online instructor as an expert in technology, facilitator of communication, and adapter of the materials for the best within the facilities (Paloff & Pratt 2011), Welch and Napoleon (2014) classify virtual teaching dispositions into four domains of presence: expert/cognitive presence, pedagogical presence, social presence, and technological/virtual presence. The notion of presence in the online environment is defined as "the ability of learners to project themselves socially and affectively into a community of inquiry" (Rourke *et al*., 1999, p. 1). Expert/cognitive presence refers to the interactive behaviors that help construct and confirm meaning by thinking, understanding, and building ideas related to the content matter.

Pedagogical presence refers to the interactive behaviors that prompt effective online course design, management, prolific and genuine communication along with comprehensive feedback and sustainable learner engagement in remote learning. Social presence refers to the interactive behaviors that improve the social context in remote learning and eliminate social distance for both instructors and learners. So, it attaches great importance to individualized learning by catering to learners' motivational and interactional needs in online social environments. Technological/virtual presence refers to the interactive behaviors that online instructors skillfully act in order to harness technology, and digital tools to serve effective course design, digital material use and assessment, and provide strong and supportive online learning environments for the learners to reach their full potential. Technological/virtual presence enables instructors to proficiently incorporate digital technologies to organize information and facilitate active learning. So, digitally competent instructors are expected to be open to innovations, examine, adapt, and operate the latest ICT tools in their information and interaction-rich online courses.

Teacher self-efficacy

The term 'self-efficacy'; oft-cited by Bandura (1977, p.3), is defined as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments." From the perspective of social cognitive theory, self-efficacy is a psychological construct that consists of an individual's beliefs, perceived capabilities, personal judgments, and choices within the conditions of the environment. Efficacy, therefore, dramatically influences the motivational and behavioral patterns of individuals within the frame of the self-belief system. Bandura (1977) categorizes four main sources that the individuals are affected by while developing their self-efficacy system. Mastery experiences refer to the previous experiences of individuals, which lead them to assess themselves personally. The previous accomplishments are believed to raise personal efficacy and perform a similar success in their future acts, whilst the failures in the past result in lower efficacy by negatively affecting their future performances. Vicarious experiences are believed to be gained through the observation of other individuals' performances. In this sense, the individuals model and improve their performances in association with their observations of the social models. Verbal persuasion refers to the power of feedback on an individual's motivation and belief development in his potential performance. Redmond (2010) emphasizes that individuals shape their capabilities according to the feedback they are given. Emotional and psychological states refer to the affective states that the individuals hold for the particular performances they carry out. Positive feelings are believed to set the ground for a higher level of performance, while the negative feelings consequently result in lower achievement in certain aspects of individuals' lives.

Based on Bandura's general construct of self-efficacy (1977), educational research has started to focus on teacher self-efficacy, and it has started to be investigated more in-depth, particularly among the in-service and pre-service instructors to have an understanding of their efficacy systems towards their teaching practices, professional development, and future educational beliefs (Siwatu, 2007). Tschannen-Moran *et al.* (1998) established a theoretical correlation between teacher self-efficacy and instruction quality supported by empirical evidence. It has been implicated by many study results that instructors with higher teaching self-efficacy perform better in their classes with active engagement in their profession (Salanova *et al*. 2011, Ford *et al*., 2015, Kong & Chong, 2012, Mojavezi & Tamiz, 2012). As related to significance of pre-service teacher education period, Ucar and Bozkaya (2016) emphasize in their study that teachers' efficacy beliefs are generally tend to be shaped during the

preservice time. Drawing from the ideology that preservice time is a critical period during which the candidates develop their teaching belief system, it is important to investigate their self-efficacy in detail and progress accordingly in order to constitute effective teaching dispositions.

Investigating the virtual teaching dispositions of the in-service instructors has been a research subject in a limited number of studies; besides, there is almost no study regarding preservice teachers. For example, Welch *et al*. (2015) conducted quantitative research with the participation of over a hundred online instructors to compare dispositions to the expectations of the students. The results showed that VTD had a significant impact on student success; thus the quality of online instruction should be empowered by the close contact between student expectations and teacher dispositions. There is also a dearth of studies investigating the relationship between preservice teacher self-efficacy perceptions and virtual teaching dispositions. Ucar and Bozkaya (2016), for example, investigated preservice teachers' self-efficacy beliefs in an online learning environment, and their beliefs were defined as high but fragile as their new experiences led them to change their dispositions in an unstable manner.

The present study

Within this frame, the present study aims to investigate the relationship between preservice EFL teachers' virtual teaching dispositions and their self-efficacy perceptions. Thus, the study is guided by the following research questions:

1. What are the virtual teaching dispositions of preservice EFL teachers?
2. What are the self-efficacy perception levels of preservice EFL teachers?
3. Is there any significant relationship between preservice EFL teachers' self-efficacy perception levels and their:

    a) Social presence dispositions

    b) Virtual/Technological presence dispositions

    c) Pedagogical presence dispositions

    d) Expert/cognitive presence dispositions

The theoretical considerations and previous studies lead this study to anticipate that there is a meaningful relationship between the preservice EFL teachers' self-efficacy perception levels and virtual teaching dispositions.

Method

Research Design

This quantitative study used a correlational design (Dörnyei, 2007) to investigate and correlate virtual teaching dispositions and teacher self-efficacy perceptions of the population sample. In offering this design, the primary goal was to gather and evaluate quantifiable information within the scope of the statistical analysis of the sample. In what follows, the participants, data collection instruments, and analysis procedures are elucidated.

Participants

The participants consisted of 116 pre-service teachers of the English Language Teaching Department at a private university in İstanbul, Turkey. Of the 116 participants, 90 were female (%78), and 26 were male (%22). The age range of the participants varied from 18-24 years old. By the time of the data collection procedure, the majority of the pre-service EFL teachers had taken information technologies and instructional technologies courses prepared and prescribed by The Council of Higher Education Turkey (YÖK) English Language Teaching (ELT) curriculum, and which may have an extraneous effect on their virtual teaching dispositions or self-efficacy beliefs.

Data collection instruments

Two scales, namely, Welch and Napoleon's (2014) Virtual Teaching Disposition Scale (VTDS) and Tschannen-Moran and Woolfolk Hoy's (2001) Teacher Self-Efficacy Scale (TSES) were used to collect data. The VTDS includes 25 items with four subcategories, which are social (6 items), pedagogical (5 items), expert/cognitive (6 items), and (4) virtual/technical (8 items), presences. Some sample items of the questionnaire are as follows: "*I maintain genuine and meaningful contact in online formats", "I am intrinsically motivated to master new information technology*", and "*I adapt learning strategies within the context of my subject matter*". The scale was superimposed on a 4-point Likert-type scale ranging from 1 (very untrue of me) to 4 (very true of me). Reliability analysis indicated the internal consistency value as .89 for the entire instrument, ranging from .73 to .87 for the individual four subcategories, while the construct validity was established using the Q-Sort method, and EFA demonstrated four-factor results with sampling adequacy (KMO = .845) (Welch & Napoleon, 2014).

The second scale, the TSES is a 24-item scale including three sub-dimensions: namely, efficacy in student engagement, efficacy in instructional practices, and efficacy in classroom management. All the items were affiliated with one subscale, such as *"How much can you do to get through to the most difficult students?* as part of *efficacy in student engagement", "How well can you respond to difficult questions from your students ??* as part of *efficacy in instructional strategies", "To what extent can you make your expectations clear about student behavior?* as part of *efficacy in classroom management ".* The construct validity of the instrument was examined through Rand items, and the total scores were positively related to the general teacher self-efficacy (GTE) factor (r= 0.16, p< 0.01), while the Cronbach Alpha reliability coefficient of the overall scale is α= .94, with the reliability coefficients of the three sub-dimensions that are stated as efficacy in student engagement α= .91, efficacy in instructional practices α= .90, and the efficacy in classroom management α= .87 (Tschannen-Moran & Woolfolk Hoy, 2001).

Data collection procedure

After receiving Ethical Board approval, pen and paper questionnaires were distributed to the ELT department students in the fall semester of the 2021-2022 academic year. The participants were informed about the key research elements and their rights during the investigation procedure. A written informed consent document containing the required information about the research procedure was provided to them.

Data analysis

The responses obtained from the sample group were submitted to descriptive and inferential analysis via the SPSS 26.0 software to reach sufficient information about the significance and generalizability of the results.

Results

RQ1: What are the virtual teaching dispositions of preservice EFL teachers?

The results obtained from descriptive statistics, as seen in Table 1, indicated a significant difference between the scores in the virtual teaching disposition presences with notable mean variation. The participants had a higher mean score in social presence (M = 3.56, SD = .34), followed by the other presences descendingly as; pedagogical presence (M = 3.37, SD = .46), expert/cognitive presence (M = 3.36, SD = .39), and virtual/technological presence (M = 3.05, SD = .50).

RQ2: What are the self-efficacy perception levels of preservice EFL teachers?

Table 2 demonstrates the variations among the mean scores of the pre-service teachers' self-efficacy beliefs. Efficacy in instructional strategies beliefs had the highest mean score (M = 7.19, SD = .92), closely followed by the efficacy in classroom management beliefs (M = 7.19, SD = 1.02), and the minimum mean score from the efficacy in student engagement beliefs (M = 6.98, SD = 1.08).

RQ3: Is there any significant relationship between preservice EFL teachers' self-efficacy perception levels and their virtual teaching dispositions?

To answer the third research question, Spearman's rho correlation coefficient examined the relationship between virtual teaching disposition presences and factors constructing self-efficacy beliefs. Each sub-scale score was computed by the comparison of means scores. The results, as displayed in Table 3, indicated 10 significant correlations among the 12 pairs. As the first presence of virtual teaching disposition, social presence was found to be statistically correlated to student engagement efficacy (r_s= .45, $p < 0.01$), instructional strategies efficacy (r_s = .39, $p < 0.01$), and classroom management efficacy (r_s = .43, $p < 0.01$), with a shared variance of 20%, 15%, and 19% respectively. Secondly, there was a positive correlation between virtual/technological presence and student engagement efficacy at the 0.05 level; namely 1-tailed (r_s = .18, $p < 0.05$). The relationship between virtual/technological presence and instructional strategies efficacy was not statistically significant (r_s = .16, p = .084) whereas there was a positive correlation between virtual/technological presence and classroom management efficacy (r_s = .25, $p< 0.01$), with a shared variance of 3%, 3%, and 6% respectively.

As the third presence of virtual teaching disposition, pedagogical presence was computed to measure the relationship between teacher self-efficacy beliefs. Results demonstrated that pedagogical presence in virtual teaching was positively correlated to student engagement efficacy (r_s = .35, $p< 0.01$), instructional strategies efficacy (r_s = .31, $p < 0.01$), and classroom management (r_s = .39, $p <0.01$), with a shared variance of 12%, 10%, and 15% respectively. As the last presence of virtual teaching disposition, expert/cognitive presence was also found to be positively correlated to self-efficacy beliefs as follows: student engagement (r_s = .44, p <001), instructional strategies (r_s = .50, p <0.01), and classroom management (r_s = .54, p <0.01), with a shared variance of 19%, 25%, and 29% respectively.

Discussion

In this study, the primary goal was to examine the potential relationship between preservice teachers' virtual teaching dispositions and their self-efficacy beliefs. The findings, on the whole, confirmed the research hypothesis and indicated that there was a positive correlation between the sub-presences of virtual teaching dispositions and sub-dimensions of self-efficacy beliefs with varying degrees.

The study results indicated the strongest positive correlation between virtual teaching disposition and self-efficacy beliefs in the expert/cognitive presence category. The expert/cognitive presence is regarded as the teacher's ability in promoting learning through the use of appropriate instructional strategies, interaction, and mutual understanding. Albrahim (2020) suggests that an online teacher should have content skills and transfer the information to the learners in an effective manner. Similarly, cognitive presence has an influential power on teaching beliefs and acts. (Kozan, Richardson, 2014). The positive relationship between expert/cognitive presence and preservice teacher self-efficacy indicates that the increase in the beliefs in teachers' ability to teach content matter effectively will increase the tendency in effective teaching and interaction in online environments.

Furthermore, the study results reported a statistically significant correlation between the social presence of virtual teaching disposition and self-efficacy beliefs. Social presence is active participation in the teaching and learning process by increasing interaction in online environments. Akcaoglu and Lee's study (2016) demonstrated that teachers played a crucial role in increasing social presence in online teaching environments. The results of the study are partially aligned with the study of Zilka *et al*. (2018) in that teacher social presence influences self-efficacy development. In their study, student self-efficacy developed through teacher social presence; similarly, the present study showed a positive correlation between preservice teacher self-efficacy and their social presence. The increase in the preservice teachers' self-efficacy beliefs will correspond to an increase in their social presence in online teaching environments.

Moreover, this study demonstrated a minimum level of positive correlation between the pedagogical presence of virtual teaching disposition and preservice teacher self-efficacy beliefs. Although the teachers' professional competence beliefs are mainly shaped by their professional knowledge, the relation between pedagogical presence and self-efficacy has been rejected by numerous studies. Depaepe and König (2018) reported that the relationship between the pedagogical knowledge and preservice teacher self-efficacy was not significant. Similarly, this study reported that the pedagogical presences of preservice teachers' virtual teaching tendencies were not strongly associated with their self-efficacy beliefs.

Lastly, preservice teachers' technological/virtual presence and self-efficacy beliefs were weakly correlated, which indicated that the increase in preservice teachers' self-efficacy has a vague impact on the increase in their virtual presence in online teaching environments. The technological/virtual presence means the digital competencies of the instructors in designing and implementing effective online courses. Instead of investigating the relationship between the virtual skills of preservice teachers and their professional self-efficacy skills, studies mainly focused on the impact of self-efficacy beliefs of teachers on technology integration into their classes and noted significant correlations and results (Caner & Aydin, 2021, Kent & Giles, 2017, Lemon & Garvis, 2016, Birisci & Emin, 2019). However, the results of this study demonstrated that the teacher self-efficacy beliefs and their technological/virtual presences in online teaching environments were not strongly associated with each other. In light of the results, a preservice teacher with high levels of professional self-efficacy beliefs may deliver a low

performance in digital competencies in virtual teaching or high performance with low levels of self-efficacy beliefs.

Pedagogical Implications and Applications

There are several implications of this study. Despite the varying degrees of correlation between preservice teacher self-efficacy and different sub-dimensions of virtual teaching disposition, it should be noted that social and cognitive presences of virtual teaching disposition are more strongly correlated to the self-efficacy beliefs compared to the technological/virtual and pedagogical presences. As Bandurra (1977) emphasized the importance of social-cognitive theory on self-efficacy construction, teacher educators should put stress on the social and cognitive presences during the education of virtual teaching, which may also improve their self-efficacy beliefs, as suggested by this study.

Limitations and Delimitations of the Study

There are several notable limitations of this study. First, data were collected only from the students of the ELT department at a private university, therefore it is not possible to generalize the results of the study. Addedly, due to the nature of the research question, both data collection instruments were based on perception surveys; thereby the reliability of the data may be damaged at a certain level. Further research will shed more light on the issue through the inclusion of different samples, settings, and triangulation of the data.

Conclusion

Teachers of the digital era educate themselves in different models of education. Online teaching requires multifaceted skills from teachers so that they can conduct effective lessons without restrictions. Teachers develop their dispositions as they practice online teaching, which also shapes their professional efficacy belief system. To increase this mutual contribution, teachers should start practicing online teaching during preservice time where they will have the opportunity to develop online dispositions and general professional efficacy beliefs.

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Disclosure statement

No potential conflict of interest was reported by the author.

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Use of Internet and ICT Skills in Developing Language and Higher Education in the COVID-19 Pandemic: A Review

Ms. M. Al Muthassir Farhana[1] & Dr. Jabbar Al Muzzamil Fareen[2]

Abstract

Information and Communication Technology tools have become an indispensable resource to undertake higher education and research. It is with the blend of language and digital skills, higher education students and research scholars acquire ample knowledge and information from the Internet and reflect their expertise in the relevant field. As scholars need to develop their language and content productivity in their respective areas of interest, they need to possess the receptive ability and in specific extensive reading and referencing skills to seek knowledge from various resources. In this context, this paper highlights on the needs and use of language, cognitive and ICT tools in collecting and understanding authentic educational resources for teaching, learning and research. Further, it also reflects on how the use of Internet, can help the scholars enrich and gain knowledge through extensive reading skills and subsequently disseminate their knowledge to the professional community.

Keywords: Computer Assisted Language Learning (CALL), extensive reading skills, higher education, Information and Communication Technology (ICT) tools, language education, Internet use

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1. Introduction

English Language Teaching (ELT) has witnessed a new paradigm shift through incorporating Information and Communication Technology (ICT) tools for language education. The advent of Internet and communication media and with a new wave for integrating ICT tools and digital skills for blended learning, higher education has been witnessing a big boom for developing both the language and disciplinary content of any subject. This helps the student to undertake extensive reading to acquire sufficient knowledge and information to gain expertise in that concerned subject. This further develops their language productive and cognitive abilities to share and disseminate their information to their professional communities. In this context, English for Specific Purposes (ESP) has emerged as a new offshoot of ELT in providing specific purpose based language learning to develop communicative competence of the students to successfully communicate in their target contexts. As ESP courses promises specificity and promotes needs based language learning, it has become quintessential to develop those language and ICT skills to meet their specific purpose of learning. Being reading is a scholastic and receptive skill and essentially required to collect authentic information, it is mandatory for every scholar to develop their reading and comprehending abilities. In their pursuit to undertake research activities, scholars need to indulge in developing extensive reading and referencing skills to undertake intense review of literature available in studies.

Today, Internet has become the knowledge pool and the repository of the world data, wherein everybody depends on collecting information from it. With the blend of Information and Communication Technology, knowledge can be gained, processed and disseminated to all the professional communities across the world. To engage in knowledge exchange and communicative tasks, extensive reading skills are essential and when it is regularly exercised, research activities can be developed. Due to the vigorous involvement of scholars in the copious learning of the literature of various online resources, the disciplinary, interdisciplinary and multidisciplinary based higher education studies are expanding and making it readily available on the Internet throughout the world. In this purview, this paper attempts to reflect that irrespective of hailing from any discipline, students, research scholars and professionals need to develop their digital learning skills and content based language education to fit themselves in pursuing higher education and research.

2. Technology enabled language education

Technology enabled language education has been much in demand for teaching, learning and assessing language education courses. For international assessment of the language proficiency of the students, Computer Assisted Language Learning (CALL) courses are widely prevalent to test the students' listening, comprehending, reading, speaking, and writing abilities. Several researches claim that language and communication skills are much developed through integrating technology tools in language classrooms (Cohn, Moore & Taliercio-Cohn, 1998; Kern, 2006; Razia, 2019). But still, most tertiary and higher level educational institutions facilitate little or no use of technology in actual classrooms. But due to the unprecedented impact of COVID-19 and nationwide lockdown, online education has become the order of new normalcy. In this context, several doubts are generally raised that whether technology needs to be adopted and practiced in a synchronized or asynchronized mode? Do the teachers are really competent enough to teach English with technology? Do really the students are compatible enough to use technology in their language courses? Though these questions are often raised to understand the practicality of integrating technology tools in language courses, it is apparently anticipated that both teachers and students need to have a positive note to assimilate technology with language learning on par with any other subjects in higher education.

Computer Assisted Language Learning (CALL) helps

1. To adopt and use the most sophisticated way of language learning with computer, head phones, mikes, and separate cabins for dedicated workflow.
2. To make use of self-evaluating software packages on grammar, vocabulary, spelling and punctuation practice.
3. To become familiar with the major standard accents like UK, US Englishes. The software provides adequate practice in self-evaluating individuals' pronunciation to the standard pronunciation style.
4. It provides more practice to listening and comprehending skills.

In this COVID-19 pandemic situation, digital learning happened in an unplanned and unprepared way. Both the teachers and students are able to cope with the E-pedagogy in the challenging times of lockdown. In oncampus physical classroom settings, though the sophisticated use of technology draws the attention of the academicians, they pay partial or little attention to integrate language education with technology for the want of financial aid in installing language and interaction labs. And also, the huge strength of the language students and less faculty ratio to teach language courses also raise the management to resist for the inclusion of ICT tools in language education. The high cost of language software and the provision of uninterrupted Internet facilities are also considered as a major factor in the drive for not including technology enabled courses in language education. Though these administrative and financial issues are generally prevalent, both the English teachers and students in higher education generally consider that they can integrate technology in skills based language learning at their own interests through using Internet as the knowledge and resource pool for their content preparation. Their consistent use of computer, laptop and smartphones in reading their online disciplinary content has made a positive impact in developing their extensive reading skills and vice versa.

Academic institutions need to stabilize their language lab and communication lab with adequate updated technical resources. It should also provide refresher training courses to the teaching faculties, supporting staff and to the students. It should ascertain that the facilities are reached to the students and should monitor, how do the students really use the technical resources and have enriched their knowledge and skills to the core of their domain interests. It can provide special ESP programmes as add on courses at evening sessions to help the students to access the Internet through their laptops. It will be more beneficial that if the campus is equipped with Wireless Fidelity network (WiFi) and can provide access to international online journals. Students, teachers and all the academic and research personnel need to have ethical and moral responsibilities to browse the right websites where they can be benefitted with scientific and technical knowledge and contribute their original papers and projects to their professional communities.

With the aid of the teachers' constant use and referral of Internet resources, students can get motivated to use technology in their online and offline preparation of learning resources. Students need to be constantly motivated and guided to know about the what and how of learning and using online resources. Teachers' specifically expect the students' to undertake course assignments and anticipate them to complete by their own. Students can take aid of the online resources for further reading and use suggested references for their work but should not indulge in plagiarism. This is where all the faculties really concern to check the originality of the work and they go through the plagiarism report before evaluation. Extensive reading, referencing, drafting the research/conceptual papers and submitting it along with the plagiarism report have now become the authentic skills and tasks of any research scholar, and it needs to be specifically mentioned that all these activities are conducted through the quick guidance of Internet resources. Obviously, it can be stated that a researcher is a tech-savvy and also, it can be noted that a tech-savvy can be a researcher in his/her own might. A disciplined Internet user is a scholastic and professional explorer who navigates through surfing the Internet, indulges in innovation with seamless perspiration, and ultimately brings laurels to the institution or community to which he/she belong to.

3. The need for using ICT tools in higher education

Digital literacy is a prerequisite to the teachers and scholars to easily access digital resources for their academic and professional use. This eventually develops relevant technical knowledge and skills pertained to their disciplinary demands in academics and the workplace. The use of e-mail, web blogs, videography, video conferences, PowerPoint presentations, graphical representations through visual graphics, animations and images help the students to correspond in technical communication (Cumming, 1995). In the present academic and professional context, students and prospective employees should be able to execute interpersonal communication skills in formal, informal, social, business and technical situations through electronic media (Nguyen, 2008). As sharing and exchanging information is the core element of communication, students need to acquire knowledge and should be resourceful to use technology. They should be able to use email and WhatsApp for sending formal and social messages, active in LinkedIn and Twitter accounts to associate themselves in the professional communities (Borup, West, & Graham, 2012). In present academic and professional contexts, they need to export and import google forms for their academic and professional communication processes and need to have sufficient awareness about the use of Internet, Big Data and Cloud Computing (Gartner Inc., 2016; Meola, 2016).

With the access to the Internet and incorporating the aid of ICT tools, students can involve themselves by undertaking a topic based study, collecting relevant articles from journals and could employ their extensive reading and referencing skills in the self-preparation of the content in their area of interest. With the aid of technological resources and extensive reading skills, students can develop their disciplinary content and engage in those specific oral and written genres that they need to present to the teachers for evaluation. This will help students to develop their cognitive learning skills to receive and process information with the relevant disciplinary content and could mark their opinions and suggestions and would be able to provide a complete review on the subject. In this pursuit, students can gradually develop their language skills and would be able to engage in professional discourse with their peers and teachers. Yet again, with the aid of Internet and communication media, higher education students can outreach to perform at online webinars, symposiums and conferences (Ayebi-Arthur, 2017; Zheng & Warschauer, 2015). With the confident use of technological resources, paper and poster presentations can be done at any online and offline professional forums. Technology, education and profession can now be seen as an amalgamation of one whole and its integrated and interdependent presence has influenced the learned masses to incorporate and excel in every aspect of their professional jobs. As it cannot be separated with one another, it is the sheer call from all the professional and technical masses that has now translated into reality and hence, we witness learning is education, learning is technology and learning is a profession.

The educational policies and planning need to restore the implications of New Information and Communication Age and should follow up the recommendations of technocrats in implementing technology enabled language education. Teachers willingness to adopt technology in their teaching approaches are must today (Englund, Olofsson, & Price, 2017). This will help in motivating students to develop learning with technology and to the successful implementation of technopedagogical practice in the institution. The massive awareness and use of technopedagogy in all the levels of education has become essential and it has been the need of Z Generation students to become technosavvy in their life, education and career. Further, the advent of the COVID-19 and the impact of the subsequent lockdowns in education has been really a blessing in disguise to move with the great paradigm shift of digital learning in contemporary education practice. In this new normalcy, virtual and blended approaches has been the order of the day and hence the higher education students need to possess added responsibility in synergizing their learning interests through the digital mode. Access to Internet services and the ability to obtain the technical devices and resources for learning has been an essential commodity for seeking higher education today. Though the whole world has recognized the importance of online education in this pandemic situation, and aim at practicing online pedagogy, most nations are not able to provide technical resources to the masses. As most students are deprived of economic stability, they are not able to afford to obtain the technical tools like smart phones, laptops and computers and to access the facilities like continuous Internet connectivity, media and online platforms that supplement their education. Access to digital learning can be possible only to those who enjoy economic stability,

and hence it has been acting as an important factor for digital divide. Technological empowerment of the masses will be quite possible only when there is economic empowerment of all the masses and vice versa. Technology accelerates economic empowerment and in turn good economy accelerates technological empowerment. In this Coronavirus pandemic lockdowns, it has been witnessed that the educational and industrial sectors which embraced technology are able to survive without any great losses in their respective fields.

Technology enabled learning environment needs to be created in both online and offline situations. Students need to have sufficient exposure in applying digital learning strategies in both oncampus and online learning environments. They need to be provided with ample technical resources and facilities in the institutions and even in their homes so that they can confidently use varied digital learning approaches in developing their language and communication abilities. The students need to possess the necessary technical tools and devices like smart phones, laptops and computer for their oncampus and online learning and to strategically use the techniques to integrate Internet resources in language learning. They need to be given a thorough understanding and practice about the available digital resources and emerging new technologies and the applications to use it in a refined way. Due to COVID-19 lockdowns, the dire need to the transition of learning to online mode happened without any preparation from the teachers, students and the reputed educational bodies itself. As the teachers and students are the key players of the educational system, they need to be provided with ample technopedagogical resources, facilities and professional training through their institutional management and administration.

The continuous enhancement of ICT competencies of both the teachers and students is the perennial requirement in this pandemic situation so that eventhough the oncampus classes are suspended, they can continue their pedagogical and evaluation processes through online mode. The COVID-19 pandemic challenges to education need to be immediately addressed as the students should not suffer due to digital divide and economic disparity. The digital gap needs to be resolved through providing both synchronous and asynchronous learning platforms and national media. The continuous broadcasting and telecasting of the courses will be a boon to the primary, secondary and tertiary level students to inculcate the knowledge through the expert lectures of the teachers and other resource persons. The teachers' expertise in online teaching and the students' involvement and commitment is highly essential to gather online resources for technopedagogy. Further, the continuous education reforms in context to digital learning needs to be initialized, functioned and managed through the government and respective autonomous administration bodies.

4. Internet – A knowledge pool for higher education and research

Intercommunication network or Internet as it is broadly referred claims to be a scholastic, social and professional platform to disseminate information in all the grounds of subject and life. An Internet user is meant to access those learning resources and should be able to read, understand and comprehend the content and should be able to import and export files, convert data into the desired format and should be able to virtually connect with their counterparts through online. Sustained use of Internet and extended reading of the online content will help the Internet users to develop their receptive abilities and in the proper processing of information and technological resources. They will be able to indulge in higher order creative and critical thinking and analyzing activities which will enable them to enhance their language and content productivity.

Students need to learn about the availability of their specific domain websites, where they can collect adequate information and share their knowledge to their professional communities (Peterson, 1999). Students need to recognize the authenticity of the websites and acknowledge its resources while they undertake topic based research discussions (Eynon, 2005; Jarrell, 2005). They need to understand and distinguish the standard of articles and its disclaimer rights to its resources. Further, its code of trust to avoid plagiarism can also be noted for the quality of the information it has provided on the website. And also, the students can understand the authenticity of the articles if it is related and acknowledged with adequate citations and references. It can be advised that they need to collect information with

references and should attempt to read and compare various authentic resources collected from various different websites. It can also be suggested that the students need to read more articles from the disciplinary journals and could compare and analyze the relevance of the quality of the articles from the standard journals.

Specific disciplinary websites provide thematic articles where the students can understand their area of interest and specialize in their respective fields. Slaouti (2002, 112) considers, "… Web is essentially an enormous datasbase, a world-wide library". In the content based language learning and specific purpose based language courses, the students can be asked to browse the relevant websites to ascertain their disciplinary genres and to perform in oral and written tasks like presentation, discussion and seminars (Dudeney, 2007). The students can be asked to contribute their ideas and work in collaboration with other students. The students can participate in disseminating information through emails and video conferences with their peers (Driscoll, 2002). In the pair interaction and group discussions, the students can extend their knowledge and organize the content and theme of the given topic. When the students are reliable to work in team for preparing seminar presentations and group discussions, the teacher can assign team projects and ask them to collect adequate materials from open-access free online journals. The teachers can extend their support by facilitating them to access various journals through the JSTOR (http://www.jstor.org) and other standard academic and research platforms. Students can be further monitored in their progress through emails, and their immediate queries can be responded through video conferences and online chatting.

The vast extensive range of the voluminous resources on the Internet are readily available worldwide and hence the higher education and research community need to avail the maximum benefit with relevant knowledge and information on any subject. The provision of the access to Internet resources is very important as the universities and institutional management should be ever ready in helping their students through their online library resources. This will help the academic and research performance of the students and scholars as they will be provided with surmount information with institutional access for reading and downloading innumerable e-journals and e-books in respective to their disciplines. The exchange of emails, video conferences and the conduct of online classes through virtual platforms are quintessential for connecting with the academic and professional community for ease and instant communication. Being English is the medium of academic and professional communication, and also the language of the Internet, the research scholars are in need to develop oral and written English communication skills to present and disseminate their projects to the scholarly community. The review of literature can be easily undertaken as copious literature in any discipline is abundantly found on the Internet. E-journals and e-books needs to be regularly referred for understanding the past, present and future trends of any scientific and technological developments happens in any part of the world.

Computer literacy, mobile learning and the access to Internet resources will not only accelerate academic and professional success, but it also positively impacts the overall growth of the nation, and in turn if it extends to international collaborations in promoting education and employment, the whole world is to benefit from it. The formal, personal and social use of the Internet is warranted as students' academic performance and personal, social and business intelligence can be specifically developed through reading, gaming and conferencing online. Even through gaming, vocabulary, pronunciation, stress, accent and style can be developed. Hence, each and every activity of our students, whatever they undertake, whether it is reading or gaming, it means a lot for their overall development, though their interest, involvement and achievement can be varied at different times. But specifically, the students and scholars need to be continuously motivated and encouraged to use online resources for their academic and professional developments and to become the part of global literal society.

5. Conclusion

The use of Internet in education is perpetual as it provides the treasure of unlimited knowledge through educational resources and builds prospects for lifelong learning. In the present higher

educational scenario, using Internet as an aid for learning is mandatory, and acquiring language education through Internet is of no exception. Internet based education is perennial as it regulates self-learning in and beyond the classroom. Digital literacy helps the teachers and students to develop extensive reading skills as they browse the content of the journals and other related websites. To develop their language and cognitive skills and disciplinary knowledge, they can be assigned to use authentic extended language resources than the confined and restricted language lab software. With the access of Internet resources, the students can be found self-motivated and develop their self-directed learning skills. With their extensive reading skills, they can be able to justify their learning preferences and confidently present and submit their papers in international forums. This paper reflects on the need of cognitive and extensive reading skills and the use of Internet and communication media in developing language and higher education. This study urges a student to become a techsavvy to use computer, laptop, smartphones with uninterrupted Internet connectivity and access learning resources to contribute authentic that could make a real sense in this professional world. Students in their long run to experiment their gained knowledge can gradually develop extensive reading skills and develop those writing resources in the form of research papers, books and dissertations. This learning outcome and the substantial submission and approval of research papers are samples of their language productivity skills pertained to their area of interest. This will gradually become a part of large database resources, with which the generations will reap the benefit of Internet, today and tomorrow.

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2020 Liselere Geçiş Sınavı (LGS) Matematik Sorularının ve 8.Sınıflar Matematik Ders Kitabındaki Ünite Değerlendirme Sorularının Ölçtüğü Temel Becerilerin Yenilenmiş Bloom Sınıflandırmasına Göre İncelenmesi

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Öz: Araştırmamız da 2020 Liselere geçiş sınavı (LGS) matematik sorularının ve 2018-2019 öğretim yılı için basılan ve beş yıl süreyle ders kitabı olarak okutulacak olan 8.sınıflar matematik kitabındaki ünite değerlendirme sorularının ölçtüğü temel becerilerin Yenilenmiş Bloom Sınıflandırmasına göre düzeylerinin ve alt öğrenme alanlarının belirlenip, bu doğrultuda soruların karşılaştırılması amaçlanmıştır. Bu sebeple araştırmamızın problemi: 2020 Liselere geçiş sınavı (LGS) matematik sorularının ve 8.sınıflar matematik ders kitabındaki ünite değerlendirme sorularının ölçtüğü temel becerilerin Yenilenmiş Bloom Sınıflandırmasında karşılık gelen düzeyleri nelerdir? ifadesidir. Araştırmanın verileri, doküman analizi kullanılarak oluşturulmuştur. Ders kitabındaki ilk üç ünitede yer alan 79 soru ile LGS 2020 sınavındaki 20 soru betimsel istatistik kullanılarak açıklanmıştır. Soruların her biri kodlanarak alanında uzman 5 kişi tarafından öğrenme, alt öğrenme ve Yenilenmiş Bloom Sınıflandırmasına göre değerlendirilmiştir. Uzmanlar arasındaki değerlendirmenin güvenirliği ise %78,6 olarak hesaplanmıştır. Yapılan araştırma ile, LGS 2020 soruları ile ders kitabında yer alan soruların birbirinden farklı özellikler gösterdiği ve bunun ders kitabı kullanımını olumsuz etkilediği sonucuna ulaşılmıştır.

Anahtar Kelimeler: Liselere Geçiş Sınavı, Yenilenmiş Bloom Sınıflandırması, Matematik Ders Kitabı, Matematik

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Giriş

Millî Eğitim Bakanlığı ülkemizde 8. sınıf seviyesinde öğrenim gören öğrencilerin ilgi, istidat ve kabiliyetleri doğrultusunda ilköğretimden sonraki bir üst öğrenim kurumu olan okullara(liselere) yerleşmesi amacıyla geçmişte kısa isimleri OKS, SBS ve TEOG adı verilen öğrencilerin farklı biçimlerde sıralamaya çalışan sınav türleri düzenlemiştir. Millî Eğitim Bakanlığı son olarak da bu amaç doğrultusunda 2018 yılından itibaren Liselere Geçiş Sınavı (LGS) adı verilen merkezi sınav sistemini ülke genelinde 8. sınıf öğrencilerine uygulamaktadır. Uygulanan sınavın sonuçlarına göre öğrenciler uygun bir liseye yerleşmektedir. Liselere geçiş sınavında sorulan matematik sorularının kazanımları Millî Eğitim Bakanlığının 2018 yılında hazırladığı öğretim programındaki 8. sınıf kazanımları belirleyici olmak üzere, 5, 6 ve 7. Sınıf öğretim programı kazanımlarını kapsamaktadır. 2018 ve 2019 yılı Liselere Geçiş Sınavlarında sorulan matematik soruları 8. Sınıf öğretim programında var olan öğrenme alanlarının tamamı dikkate alınarak hazırlanmıştır. Bu kapsamdaki öğrenme alanları; geometri ve ölçme, veri işleme, sayılar ve işlemler, cebir ve olasılık başlıkları olarak sıralanabilir (MEB, 2018). Ancak, 2020 yılında tüm dünyada meydana gelen pandemi nedeniyle liselere geçiş sınavı salgın sürecinde uygulanmış ve bu zor dönemde eğitim öğretim faaliyetleri uzaktan eğitim ile yürütülmesi nedeniyle sınav kapsamı Millî Eğitim Bakanlığının yetkili mercilerince tekrar değerlendirilmiştir. Bu sebeple uygulanacak sınavın kapsamı, 8. Sınıf öğrencilerinin okulda yüz yüze eğitime devam ettikleri 8. sınıf birinci dönem konuları ile sınırlı kalmıştır. Bu karar ile pandemiye bağlı sebeplerle öğrencilerin performanslarında oluşabilecek herhangi bir olumsuzluk engellenmeye çabalanmıştır (MEB, Eğitim Analiz ve Değerlendirme Raporları Serisi No:12, 2020). Pandemi nedeniyle 2020 yılında yapılan Liselere Geçiş Sınavının matematik bölümünde ilk üç ünitenin konularından sorular öğrencilere yöneltilmiştir.

Eğitim ve öğretimin vazgeçilmez bir parçası olan ders kitapları, öğretmenler için ders içi ve dışındaki faaliyetleri yürütmede önemli bir materyal, ölçme değerlendirme sürecinde ve ilgili konuya yol gösterme noktasında eğitim için büyük önem taşımaktadır. (Törnroos, 2005). Ders kitapları öğrencilere hem dersi öğrenme noktasında hem de dersi tekrar etme noktasında kılavuzluk etmektedir.

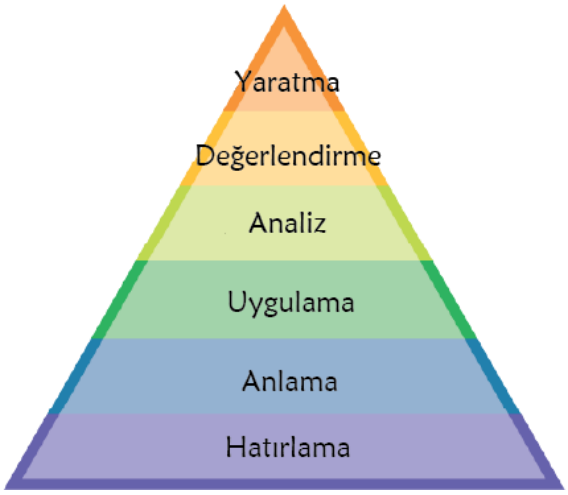
Merkezi sınava girecek tüm 8. sınıf öğrencileri için fırsat eşitliğinin sağlanması adına ders kitapları yeterli ve öğrenciyi farklı herhangi bir kaynağı alma ihtiyacı doğurmaması gerekmektedir. Öğrencilerin matematik dersindeki başarı düşüklüklerinin sebepleri başında okul için hazırlanan matematik ders kitaplarının iyi hazırlanmaması; uygulama ve etkinliklerin az verilmesi, soru türü ve sayısının az olması, çıkmış liselere geçiş sınavı sorular ile uygun olmadığı gibi sebepler sıralanmaktadır. Sonuç olarak ders kitaplarının bu sebeplerle daha az tercih edilmesi veya ek bir kaynağa ihtiyaç duyulma gereksinimi olabilmektedir (Korkmaz, Tutak, & İlhan, 2020)

2018'de yayınlanan Matematik Öğretim Programı'ndaki genel amaçlar doğrultusunda hazırlanan liselere geçiş sınavına ülkemizdeki öğrencilerin en iyi biçimde eksiksiz olarak hazırlanabilmeleri için faydalanacakları en önemli

ders kaynaklarının başında Türkiye Cumhuriyeti devleti tarafından ücretsiz olarak öğrencilere dağıtılan ders kitapları gelmektedir. Bu bağlamda ders kitapları, 2018 Matematik Öğretim Programı'nın özel amaçlarında var olan; öğrencilerin, üstbilişsel yeteneklerini arttırabilecek, öğrenirken kendi çabalarıyla bu süreci sağlayabilecek, problem çözme sürecinde kendisini herkese karşı kolay bir biçimde ifade etmelerini sağlayabilecek, başka kimselerin matematiksel düşünce eksikliklerini veya akıl yürütmedeki boşluklarını görmelerini sağlayacak şekilde hazırlanmalıdır (MEB, 2018).

Liselere giriş sınavında yer alan matematik soruları ile ders kitabı ünite değerlendirme bölümlerindeki problemlerin aynı bilişsel düzeyleri ölçecek seviyede olması; öğrencilerin liselere giriş sınavında karşılaşacakları problemleri daha rahat bir şekilde kavramalarına ve çözmelerine yardımcı olacaktır. Bu amaç doğrultusunda ders kitaplarında yer alan problemlerin, liselere geçiş sınavında yer alan problemlerle benzer bilişsel düzeyleri ölçecek biçimde hazırlanmış olması gerekmektedir.

Sınavlarda sorulan soruların ve bu sınavlara giren öğrencilerin biliş düzeylerini belirlemek amacıyla geliştirilen farklı sınıflandırma türleri bulunmaktadır (Filiz, 2004). Ralph(1999) ve Thompson(2008)'ın araştırmalarına göre, sınıflandırma türleri arasında daha fazla ilgi gören Benjamin Bloom tarafından ortaya konan ve Bloom Taksonomisi olarak altı basamaktan oluşan biliş düzeyi sınıflandırmasıdır (akt. Biber ve Tuna, 2017). Bloom taksonomisinin 1956 yılında ortaya çıktığı dönemde davranışçı yaklaşımlar ön planda iken günümüzde ise öğrenciyi merkeze alan yapılandırmacı eğitim modelleri ön plandadır. Hem bu sebeple hem de klasik sınıflandırmanın Bilgi basamağının eylem ve ad özelliği nedeniyle bilim adamlarınca Bloom taksonomisinin revize edilme ihtiyacı belirmiştir (Anderson ve Krathwohl, 2018; Krathwohl, 2002).



Şekil 1 Revize Bloom Taksonomisi

Bloom'un gözden geçirilmiş taksonomi modelindeki eylem olarak ifade edilen terimlerin açıklamaları aşağıdaki gibidir (Iastate.edu.tr, 2020):

• Hatırlama: Uzun dönemli hafızadan ilgili bilgilerin geri çağrılmasıdır.

• Anlama: Görsel, grafik okuma ve yazılı içeriklerden anlam çıkarma, farklı biçimde ifade etme ve karşılaştırma yapabilmedir.

• Uygulama: Verilen bir durumda bir prosedürü uygulama veya kullanmadır.

• Analiz: Belirli bir durumda farklılaştırma, ayrıştırma, yapılandırma, odaklanma, atfetme ve ilişkilendirmedir.

• Değerlendirme: Belli kriterlere ve standartlara dayanarak yargılarda bulunmadır.

• Yaratma: Öğelerin tutarlı biçimde bir araya getirip; yeni bir model oluşturma veya yeniden özgün biçimde organize etmedir.

Çepni, Ayvacı ve Keleş'e göre (2001), ölçme araçlarında kullanılan sorular; biliş düzeyi düşük olan sorular yerine biliş düzeyi yüksek olan sorular olarak seçilirse öğrenciler zihinsel anlamda daha çok çaba göstermiş olacak ve böylece öğrencilerin daha fazla yaratıcı düşünceye sahip olmaları amaçlanmaktadır (Köğce & Baki, 2009). Öğrenim gören her öğrencinin biliş düzeyini geliştirmek ve bu öğrencilerin farklı biliş düzeylerine sahip olmasından kaynaklı olarak, okul ders kitapları yenilenmiş Bloom taksonomisinde yer alan altı biliş düzeyinin her birinden olmak üzere genellikle üst düzey bilişsel sorular içermelidir. Geçmiş yıllarda uygulanan TEOG sınavında ''Hatırlama'', ''Anlama'' ve ''Uygulama'' basamaklarını ölçen sorular gelmekte iken, Liselere Geçiş Sınavı'nda ise en az ''Uygulama'' basamağını ölçen sorular gelmektedir. Bu sebeple ders kitaplarında sınav sistemine paralel olarak en az uygulama basamağı olmak üzere üst biliş düzeylerini ölçen sorulara daha çok yer verilmelidir.

Araştırmamızda 2020 Liselere Geçiş Sınavı matematik sınavı soruları ile İstanbul ilinde Millî Eğitim Bakanlığına bağlı okullarda okutulan 8. sınıf matematik ders kitaplarının ünite değerlendirme bölümlerinde yer alan matematik soruları veri aracı olarak kullanılmış ve bu soruların her birinin Bloom taksonomisinde yer alan düzeylerinin belirlenmesi ve bu düzeylerin karşılaştırılması yapılmıştır.

Matematik alanındaki bu araştırma için yapılan literatür kontrolünde, ortaokul 8. sınıf seviyesindeki ders kitaplarında bulunan ünite değerlendirme soruları ile liselere geçiş sınavı sorularını birlikte ele alarak Bloom taksonomisi çerçevesinde değerlendiren bir çalışmaya rastlanılmamıştır. Ancak, yapılan literatür taramasında sadece ders kitaplarını veya sadece liselere geçiş sınavlarını ayrı ayrı ele alan makale türlerine rastlanılmıştır (Biber ve Tuna, 2017; Ekinci ve Bal, 2019; Korkmaz vd, 2020; Şahin ve Başgül, 2019; Üredi ve Ulum, 2020).

Yöntem

Bu araştırma, 2020 Liselere Geçiş Sınavı (LGS) matematik sorularının ve 8.sınıflar matematik ders kitabında bulunan ünite kazanımlarına göre hazırlanmış değerlendirme sorularının ölçtüğü temel becerilerin Bloom sınıflandırmasına göre düzeylerini belirlenmesi amacıyla yapılan nitel bir çalışmadır. Bu araştırma deseni ders kitabının öğretim programına ve liselere geçiş sınavına uygunluğunu derinlemesine, teorik ve uygulama boyutunda incelemek amacıyla seçilmiştir. Araştırmanın verileri; bu amaç doğrultusunda doküman analizi kullanılarak oluşturulmuştur.

Veri Araçları

Araştırmamızda doküman incelemesi için 2020-2021 döneminde ülke genelinde birçok ilde ve İstanbul ilinde kullanılan KÖK-E Yayıncılık 8. sınıf matematik ders kitabında bulunan 1, 2 ve 3. Ünite değerlendirme bölümlerindeki toplam 79 adet soru (EK-2) ve 2020 yılı Liselere Geçiş Sınavında (EK-1) yer alan 20 adet matematik sorusu veri aracı olarak kullanılmıştır.

Verilerin Analizi

Ünite değerlendirme bölümlerinde bulunan 79 sorunun ve liselere geçiş sınavındaki 20 matematik sorusunun revize edilmiş taksonominin bilişsel süreç boyutunun hangi basamağında olduğunu belirlemek amacıyla Google form yardımıyla bir anket oluşturulmuştur. Ankette veri aracı olarak kullandığımız soruların her biri ayrı ayrı alanında uzman 5 kişi tarafından değerlendirilmiştir. Değerlendirmenin 5 kişi tarafından yapılmasındaki amaç; soruların bilişsel süreci hakkında tutarlı ve güvenilir veri elde etmek istenilmesidir. Soruları değerlendiren ekip arasındaki güvenirlik oranı ise, Miles ve Huberman'ın (1994) geliştirmiş olduğu aşağıdaki yöntem ile belirlenmiştir.

$$\frac{\text{Görüş Birliği}}{\text{Görüş Birliği} + \text{Görüş Ayrılığı}} \text{x} 100$$

Değerlendirmeyi yapan 5 uzman kişi arasındaki değerlendirmenin güvenirliği %78,6 olarak hesaplanmıştır. Hesaplanan güvenirlik yüzdesi %70'ten yukarı olup, bu ise çalışmanın güvenilirliğini gösterir (Miles & Huberman, 1994).

Bulgular

Araştırmamızda ders kitabında yer alan 1. Ünite değerlendirme sorularının her biri (S.1.1, S.1.2, S.1.3, …S.1.25) kodlanmış olup bu soruların Bloom Taksonomisinin bilişsel süreç boyutunun hangi basamağında olduğu Tablo-1'de gösterilmiştir.

Bu ünitede yer alan S.1.4, S.1.5, S.1.6, S.1.7, S.1.8, S.1.9, S.1.14, S.1.15, S.1.19, S.1.20, S.1.22, S.1.25 kodlu soruların alt öğrenme alanı çarpanlar ve katlar olup, diğer soruların alt öğrenme alanı üslü sayılardır. Bu sebeple 1. ünitede yer alan soruların tamamının "Sayılar ve İşlemler" öğrenme alanına ait sorular olduğu belirlenmiştir.

Tablo 1 1. Ünite değerlendirme sorularının bilişsel süreç boyutuna göre dağılımı

Bilişsel Süreç Boyutu	**Soru Kodları**
Hatırlama	S.1.10
Anlama	S.1.1, S.1.2, S.1.5, S.1.8, S.1.11, S.1.12, S.1.13, S.1.14, S.1.15, S.1.16,
Uygulama	S.1.3, S.1.4, S.1.6, S.1.7, S.1.9, S.1.17, S.1.18, S.1.19, S.1.20, S.1.21, S.1.22, S.1.23, S.1.24, S.1.25
Analiz	-
Değerlendirme	-
Yaratma	-
	Toplam: 25

1. Ünite değerlendirme sorularında yer alan 25 adet sorunun yüzde 4'ü "Hatırlama", yüzde 40'ı "Anlama", yüzde 56'sı ise "Uygulama" basamağında olduğu uzmanlar tarafından tespit edilmiştir.

10. Aşağıdaki ifadelerde boş bırakılan yerleri tamamlayınız.

a) Sıfırdan farklı her gerçek sayının sıfırıncı kuvveti .....'dir.

b) Bir üslü ifade, paydadan paya veya paydan paydaya alındığında ..... işareti değişir.

c) Tabanları aynı olan üslü ifadeler çarpılırken ..... toplanır, ... aynen yazılır.

ç) $|a|$, 1 veya 1'den büyük, 10'dan küçük bir gerçek sayı ve n bir tam sayı olmak üzere $a \cdot 10^n$ gösterimine ..... denir.

Şekil 2 1. Ünite değerlendirme sorularında 10. soru olup S.1.10 kodu ile Tablo-1'de yer alan alt öğrenme alanı üslü sayılar ve bilişsel süreç boyutu hatırlama basamağı olan soru örneği

2. Ünite değerlendirme sorularının her biri (S.2.1, S.2.2, S.2.3, …S.2.23) kodlanmış olup bu soruların Bloom Taksonomisinin bilişsel süreç boyutunun hangi basamağında olduğu Tablo-2'de gösterilmiştir.

Bu ünitede yer alan ilk 22 sorunun (S.2.1, S.2.2, S.2.3, …S.2.22) alt öğrenme alanı kareköklü sayılar olup, bu sorular "Sayılar ve İşlemler" öğrenme alanına ait sorulardır. Bu ünitede yer alan S.2.23 kodlu 23. soru ise veri analizi konusundan olup "Veri İşleme" öğrenme alanına ait bir sorudur.

Tablo 2 2. Ünite değerlendirme sorularının bilişsel süreç boyutuna göre dağılımı

Bilişsel Süreç Boyutu	**Soru Kodları**
Hatırlama	-
Anlama	S.2.1, S.2.2, S.2.3
Uygulama	S.2.4, S.2.5, S.2.6, S.2.7, S.2.8, S.2.9, S.2.10, S.2.11, S.2.12, S.2.13, S.2.14, S.2.15, S.2.16, S.2.17, S.2.18, S.2.19, S.2.20, S.2.21, S.2.22, S.2.23,
Analiz	-
Değerlendirme	-
Yaratma	-
	Toplam: 23

2. Ünite değerlendirme sorularında yer alan 23 adet sorunun yüzde 13,04'ü "Anlama" geriye kalan yüzde 86,96'sı ise "Uygulama" basamağında olduğu uzmanlar tarafından tespit edilmiştir.

3. Aşağıdaki kareköklü ifadelerin hangisi irrasyonel sayıdır?

A) $\sqrt{48}$ B) $\sqrt{49}$

C) $-\sqrt{25}$ D) $\sqrt{729}$

Şekil 3 2. Ünite değerlendirme sorularında 3. soru olup S.2.3 kodu ile Tablo-2'de yer alan, alt öğrenme alanı kareköklü sayılar ve bilişsel süreç boyutu anlama basamağı olan soru örneği

3. Ünite değerlendirme sorularının her biri (S.3.1, S.3.2, S.3.3, …S.3.31) kodlanmış olup bu soruların Bloom Taksonomisinin bilişsel süreç boyutunun hangi basamağında olduğu Tablo-3'de gösterilmiştir.

Bu ünitede yer alan S.3.1, S.3.2, S.3.3, S.3.4, S.3.5, S.3.6, S.3.7, S.3.8, S.3.9, S.3.10, S.3.11 ve S.3.31 kodlu soruların alt öğrenme alanı basit olayların olma olasılığı olup, bu sorular "Olasılık" öğrenme alanına ait sorulardır. Bu ünitede yer alan diğer sorular ise cebirsel İfadeler ve özdeşlikler alt öğrenme alanına ait olup bu soruların "Cebir" öğrenme alanına ait sorular olduğu belirlenmiştir.

Tablo 3 3. Ünite değerlendirme sorularının bilişsel süreç boyutuna göre dağılımı

Bilişsel Süreç Boyutu	**Soru Kodları**
Hatırlama	S.3.1, S.3.13
Anlama	S.3.5, S.3.12, S.3.31
Uygulama	S.3.2, S.3.3, S.3.4, S.3.6, S.3.7, S.3.8, S.3.10, S.3.11, S.3.14, S.3.15, S.3.16, S.3.17, S.3.18, S.3.19, S.3.24, S.3.26, S.3.27, S.3.28, S.3.29, S.3.30
Analiz	S.3.9, S.3.20, S.3.21, S.3.22, S.3.23, S.3.25
Değerlendirme	-
Yaratma	-
	Toplam: 31

3. Ünite değerlendirme sorularında yer alan 31 adet sorunun yüzde 6,44'ü "Hatırlama", yüzde 9,66'sı "Anlama", yüzde 64,4'ü "Uygulama", geriye kalan yüzde 19,32'si ise "Analiz" basamağında olduğu uzmanlar tarafından tespit edilmiştir.

24. $(a - b)^2 + 4ab$ ifadesinin özdeşi aşağıdakilerden hangisidir?

A) $a^2 - b^2 - 2ab$ B) $(a - b)^2$

C) $(a + b)^2$ D) $a^2 + b^2$

Şekil 4 3. Ünite değerlendirme sorularında 24. soru olup S.3.24 kodu ile Tablo-3'de yer alan, alt öğrenme alanı cebirsel İfadeler ve özdeşlikler ve bilişsel süreç boyutu anlama basamağı olan soru örneği

Yapılan veri analizi sonucunda ilk üç ünitede yer alan toplam 79 sorunun 3'ünün "Hatırlama", 16'sının "Anlama", 54'ünün "Uygulama", 6'sının ise "Analiz" basamağında sorular olduğu belirlenmiştir. Soruların yaklaşık yüzde 68'inin "Uygulama" basamağında olması, ünite değerlendirme sorularının genellikle Bloom taksonomisinin bilişsel süreç boyutunun uygulama basamağından sorular ile oluşturulduğunu göstermektedir.

2020 Liselere geçiş sınavının (LGS) matematik sorularının her biri L1, L2, L3, …L20 biçiminde kodlanmış olup bu soruların öğrenme alanlarına göre sınıflandırılması Tablo 4 ile gösterilmiştir. 2020 LGS sorularının öğrenme alanlarının ayrı bir tabloda gösterilmesindeki amaç, bu sorulardan bazılarının birden fazla öğrenme alanına ait sorular olduğunu açıkça göstermektir.

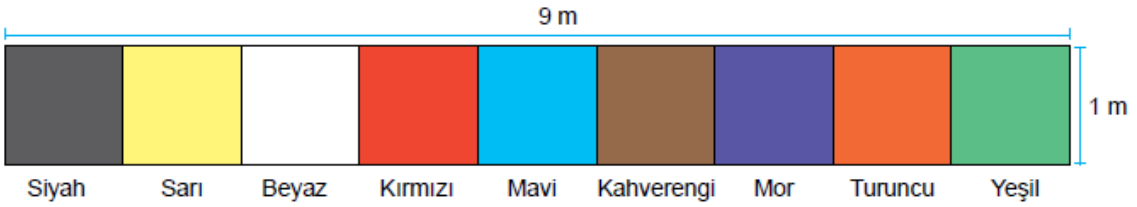
Tablo 4 Öğrenme alanlarına göre 2020 LGS matematik sorularının dağılımı

Öğrenme Alanı	**Soru Kodları**	**Yüzde (%)**	**Frekans (f)**
Sayılar ve İşlemler	L1, L3, L4, L8, L9, L10, L11, L12, L17, L18	%50	10
Veri İşleme	L2, L13, L20	%15	3
Olasılık	L7, L14, L16	%15	3
Cebir	L4, L5, L6, L15, L19	%25	5
Geometri ve Ölçme	L1, L5, L6, L10, L11, L12, L14, L15, L19	%45	9
	Toplam 20	%150	30

Tablo 4'ten görüleceği üzere, 2020 sınavında sorulan soruların en fazla "Sayılar ve İşlemler", en az ise "Veri İşleme" ve "Olasılık" öğrenme alanlarından geldiği söylenebilir. Ayrıca bazı soruların (L1, L10, L14, L11, L4, L6, L12, L5, L15 ve L19) birden fazla öğrenme alanına sahip olduğu tabloda gösterilmiştir.

LGS 2020 sorularından "Sayılar ve İşlemler" öğrenme alanına ait L3, L18 kodlu soruların alt öğrenme alanı "Üslü İfadeler"; L8, L17 kodlu soruların alt öğrenme alanı "Çarpanlar ve Katlar"; L9 kodlu sorunun alt öğrenme alanı ise "Kareköklü İfadeler" dir. L2, L13 ve L20 kodlu soruların alt öğrenme alanı "Veri Analizi" olup, bu sorular "Veri İşleme" öğrenme alanına; L7, L16 kodlu soruların alt öğrenme alanı ise "Basit Olayların Olma Olasılığı" olup, bu sorular "Olasılık" öğrenme alanına ait sorulardır. Ayrıca soruların (L1, L10, L14, L11, L4, L6, L12, L5, L15 ve L19) yüzde ellisi birden fazla alt öğrenme alanına sahiptir. L1 kodlu soru "Kareköklü İfadeler" ve "Üçgenler ve Dörtgenler"; L4 kodlu soru "Kareköklü İfadeler" ve "Eşitsizlikler"; L5 kodlu soru "Alan Ölçme" ve "Cebirsel İfadeler ve Özdeşlikler"; L6 kodlu soru "Geometrik Cisimler" ve "Çarpanlar ve Katlar"; L10, L12 kodlu sorular "Üslü İfadeler" ve "Alan Ölçme"; L11 kodlu soru "Kareköklü İfadeler" ve "Alan Ölçme"; L14 kodlu soru "Basit Olayların Olma Olasılığı" ve "Alan Ölçme"; L15, L19 kodlu sorular "Cebirsel İfadeler ve Özdeşlikler" ve "Uzunluk ve Zaman Ölçme" alt öğrenme alanlarına sahiplerdir.

14. *Bir olayın olma olasılığı* $= \frac{\text{İstenilen olası durumların sayısı}}{\text{Tüm olası durumların sayısı}}$



Kenarlarının uzunlukları 1 m ve 9 m olan dikdörtgen biçimindeki bir halının ön yüzü, şekildeki gibi farklı renklere boyanmıştır. Bu renklerin her birinin kapladığı karesel bölgenin alanı birbirine eşittir.

Bu halı, parçalarda aynı renk olmayacak şekilde iki parçaya bölünecektir.

Buna göre bu parçalardan birinin boyalı yüzünün alanının, diğerinin boyalı yüzünün alanının 2 katı olması olasılığı kaçtır?

A) $\frac{1}{3}$ B) $\frac{1}{4}$ C) $\frac{1}{8}$ D) $\frac{1}{9}$

Şekil 5 LGS 2020'de sorulmuş ve alt öğrenme alanı "Basit Olayların Olma Olasılığı" ve "Alan Ölçme" olan L14 soru kodlu örnek

Şekil 5'e göre, sınava katılan öğrencilerden olasılık ve alan konusuna hâkim olmaları beklenilmektedir.

2020 Liselere geçiş sınavının (LGS) matematik sorularının Bloom Taksonomisinin bilişsel süreç boyutunun hangi basamağında yer aldıkları ise Tablo 5'te gösterilmiştir.

Tablo 5 2020 LGS matematik sorularının bilişsel süreç boyutuna göre dağılımı

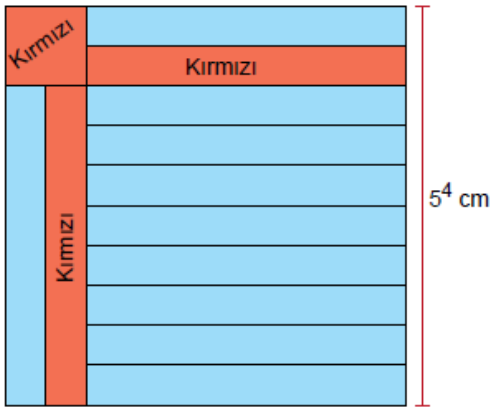
Bilişsel Süreç Boyutu	**Soru Kodları**	**f**	**%**
Hatırlama	-		
Anlama	-		
Uygulama	L3, L5, L10, L11, L13, L17, L18	7	35
Analiz	L2, L4, L6, L8, L9, L12, L14, L19, L20	9	45
Değerlendirme	L1, L7, L15, L16	4	20
Yaratma	-		
	Toplam	20	100

Tablo 5'ten görüleceği üzere, 2020 sınavında sorulan soruların %45'i analiz, %35'i uygulama, %20'si ise değerlendirme bilişsel süreç boyutuna sahiptir. Görüldüğü üzere, sınavda hatırlama, anlama ve yaratma boyutlarından soru gelmemiştir.

10. *$a \neq 0$ ve m, n tam sayılar olmak üzere*

$a^n \cdot a^m = a^{n+m}$ *ve* $\frac{a^m}{a^n} = a^{m-n}$ *dir.*

Bir kenarının uzunluğu 5^4 cm olan kare şeklindeki kâğıdın bir yüzüne aşağıdaki gibi 12 eş dikdörtgen ve 1 kare çizilmiştir. Bu şekillerden kare ve 2 eş dikdörtgen kırmızıya boyanmıştır.



Buna göre kırmızı bölgelerin alanları toplamı kaç santimetrekaredir?

A) $2 \cdot 5^7$ B) 5^7 C) $2 \cdot 5^6$ D) 5^6

Şekil 6 2020 LGS sorularında yer alan alt öğrenme alanı "Üslü İfadeler" ve "Alan Ölçme" olan ve bilişsel süreç boyutu uygulama basamağı olan soru örneği

Şekil 6'ya göre, öğrencilerin üslü ifadelerde işlem yeteneğinin çok iyi olması ve dörtgenler konusuna hâkim olmaları beklenilmektedir.

Tartışma, Sonuç ve Öneriler

Araştırmamız ders kitapları ile LGS 2020 soruları arasındaki ilişkiyi hem alt öğrenme alanları açısından hem de soruların Yenilenmiş Bloom Taksonomisindeki bulunduğu bilişsel düzey basamağının karşılaştırılması ve incelenmesi için yapılmıştır. Araştırmamızda görüldüğü üzere, ders kitabında yer alan ilk üç ünitenin değerlendirme soruları sadece ilgili ünitenin alt öğrenme alanlarından hazırlanmıştır. Oysa ki LGS 2020 sınav sorularının yüzde 50'si birden fazla alt öğrenme alanına sahip sorulardan oluşmaktadır. Ders kitabında bulunan ünite değerlendirme

sorularının Bloom sınıflandırmasının genellikle alt bilişsel (Hatırlama, Anlama, Uygulama) basamaklarında hazırlandığı ve soruların yaklaşık yüzde 68'inin "Uygulama" boyutunda olduğu görülmektedir. Buna karşın LGS 2020 matematik sorularının ise uygulama(%35), analiz(%45) ve değerlendirme(%20) basamaklarında olduğu görülmektedir.

Öğrencilerin sınav sürecinde kullanacakları yazılı kaynaklar içinde ders kitaplarının ilk sırada olması gerekliliği; LGS soruları ile ders kitaplarında yer alan sorular arasında bir paralellik olmasını zorunlu kılmaktadır. Bu paralellik ünite değerlendirme sorularının hem bilişsel süreç boyutu olarak hem de soruların birden fazla alt öğrenme alanı içermesi şeklinde hazırlanmasıyla sağlanabilir. Aksi durumda öğrencilerin yardımcı ders kaynaklarına olan talebinin artmasına sebep verilerek, öğrencilerin sınav sürecini ders kitaplarıyla değil sadece yardımcı ders kaynakları kullanarak tamamlamalarına neden olunacaktır.

Araştırmamızda LGS sorularının üst düzey bilişsel basamaktan sorular içerdiği ve birden fazla kazanımı içerdiği (Ekinci & Bal, 2019)'ın yaptığı araştırma ile benzerlik göstermektedir.

Ders kitaplarında yer alan soruların sınav sistemiyle uyumlu olarak üst düzey bilişsel basamaklardan sorular içermesi; yüzde 10'luk dilime giren öğrencilerin sınav başarısına ve bilişsel gelişimine direk katkısı olması yanında, geriye kalan yüzde 90'lık dilimdeki öğrencilerinde bilişsel anlamda gelişimlerine ve üst düzey düşünme becerilerine katkıda bulunacaktır. Ders kitaplarındaki soruların LGS soruları ile benzerlik göstermesi (Gökçek ve Karadeniz, 2013) 'in yaptığı çalışmayla benzerlik göstermektedir. Bu sebeple ders kitaplarında yer alan soruların LGS soruları ile benzer özellikler taşıyacak biçimde yazılması önerilmektedir.

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A Comparison of Speaking Performances for Online and Face-to-face Groups

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Abstract: With the changing conditions in education around the world, institutions have started trying to find new ways to be reachable for students. Especially, after the coronavirus spread in 2019, education had to reshape itself. In my country what I have heard a lot is that online education harmed students' abilities mostly in terms of speaking since they are not in classes with their teachers physically. In this study with examining two groups, I wanted to see whether it might be correct or not. My design was quantitative. I had a null hypothesis and I tried to reject it. I did T-tests with the scores of 300 students. In total, I had three sets of scores from each group and ran T-tests for each separately. In the end, the results did not show any significance for me to reject the null hypothesis. So, the hypothesis retained as having classes online or face-to-face does not have any difference on A2 level English preparatory students' speaking performance.

Keywords: online teaching, speaking performances, EFL students

Introduction

Since March 2020 we have had coronavirus all around the world. It has affected many things including education. Because this virus is contagious, education had to stop being face-to-face and most of the schools including universities and higher education switched to online teaching. It is important to note that to be able to call it an online education, the percentage of the delivery should be 80% or more via the Internet. (Wasilik, 2009) Also, the conversation, interaction should be between more than one person that happens synchronously or asynchronously. The comments and replies should be organized via technology, (Muirhead; Juwah, 2004), and the classes in which

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there is learning, or training should be delivered electronically. (Stockey, 2003) Even though online education is used by more than seven million students who take at least one online class, (Allen; Seaman, 2014) after the pandemic started, many instructors had to reprepare their plans and change the format of their classes in terms of teaching and delivery. (Sevy-Biloon, 2021) Some studies were conducted, and, in the end, the efficacy of online classes was reported. (Bourelle; Bourelle; Knutson; spong, 2015) There are some advantages of e-learning. It is a new format that can give teachers a chance to get involved with technology which provides students to participate from different cities, countries. (Cabero, 2006) Even though following the developments in technology and being a part of it is crucial for the interaction in educational environments (Bayraktar; Donmez, 2015), there were some concerns about switching to online education. A lot of universities switched to online teaching, and it was not expected to be the norm, instead, people were worried despite the fact that there was no other choice. (Todd, 2020) Therefore some students, as well as some teachers, were complaining about not having the quality education as they had in school, especially about speaking ability. Speaking requires the knowledge of the language features and the qualification of applying them in communication. (Harmer, 2001) Especially in terms of instructional pedagogy, it was hard to switch from face-to-face education to online education. (Butler, 2017) Students said that they could not speak as much as they spoke in class because of different reasons. The level of their interest was not as high as face-to-face, they had some technical problems, the interaction was not enough, and it was tiring for the students to have discussions online and receive many e-mails. They also felt left out and did not have as many chances. They felt that they had to spend more time on classes when it was online. (Hirscheim, 2005) In addition, students complain about losing the chance of interacting with their peers and teachers. (Carter; Emerson, 2012) And it is important to note that there is evidence that says having interaction with their peers and instructors has benefits on students' learning. (Staarman, Krol; Meijen, 2005) However, Clark and Jones' study that was conducted in 2001 showed that the difference in terms of the grades that they received after the assessment was not dramatically different. Instead, the scores of the students who received the classes online did much better than the ones who were taught face-to-face contrary to the common belief that the physical presence of the instructor is essential. After this study, people started online public speaking courses for higher education. (Butler, 2017)

In this study, I want to understand if there is a difference between online education and face-to-face education on students' speaking ability. My research questions are:

1. Does having classes face-to-face have any effects on speaking scores compared to online teaching?
2. Do students have lower grades and self-confidence when they do not have their instructor's physical presence?
3. Do we need to have face-to-face classes to keep to have better performances from the students in terms of their speaking ability?

   My hypothesis is: *having classes online or face-to-face does not have any difference on A2 level English preparatory students' speaking performance*

METHOD

Design

The research design is descriptive. The study has a null hypothesis and I tried to reject it. There are already two groups with different ways of learning and practicing speaking. What this study aims to show is whether these ways of practicing speaking are significantly different. There is a comparison of two groups and their three scores from the exams during the fall term.

Instruments

The instruments of the study were two online exams with selected-response items and one oral exam. The first instrument was an online quiz. There were two parts in the exam: listening and grammar which had both grammar and vocabulary parts. The students had quiz 1 in two parts separately. There was 5 minutes break between two sections. They started with the listening section and after five minutes break, they continued with the grammar section. For the listening part, they had two different listening and 10 multiple choice questions for each track. For the grammar part, they had 20 multiple-choice questions. There were grammar and vocabulary items there. There were also word-formation parts in which students were required to write the best form of the given keyword according to the meaning of the sentences. Lastly, they had a rewriting task. There were some sentences given and

the students needed to write another sentence similar to the first one by using the given keyword. Their cameras were on during the exam and their advisors were watching them.

The second instrument was quiz 2. It was again an online test. The test had one reading part with multiple-choice, true-false-not mentioned, reference, definition, and open-ended questions. Besides, there was a grammar part, and the question types were identical with quiz 1. The procedures were the same with quiz 1.

The last instrument of the study was the oral exam. It was conducted online. The oral exam had three sections. In the first section, the students were asked some warm-up questions and were not graded. In the second section, the assessor asked two sets of questions with two different topics. Each set has three different questions and in total, section two had six questions from two different topics. The students needed to explain their reasons and make clear justifications for their answers. In the last part, the student was given a topic and after thinking about it for one minute, he was expected to talk about it between 1-1.5 minutes. There were two instructors in the class. One had his camera on, asked the questions, and graded whereas the other one just listened and graded the student. There was a rubric (see Appendix A) for teachers. If the difference between the grades given by the teachers were more than three, they had to talk about it again and get the average.

Participants

Two groups of A2 level English preparation school Turkish students participated in the study. One of the groups received online speaking classes and the other one received the speaking instructions and interactions face-to-face. The online group studied in the 2020-2021 academic year, whereas the face-to-face group is studying in the 2021-2022 academic year. In each group, there are 150 students. The age range of the participants is from 18 to 25 in both groups. All the students took a placement exam after failing the proficiency exam. They got between 38-55 to be placed in stream 2 of which the starting level is A2.

Procedures

In the academic year of 2020-2021, one of the groups was taught online including speaking classes. The other group is still studying in the academic year 2021-2022 and their classes are face-to-face. The content of the speaking

classes is completely the same so there is nothing different in both programs in terms of speaking. The first group took the classes and the exams in 2020, and the second group took the same classes and the exams in 2021. In this study, I compared the first group's and the second group's quiz 1, quiz 2, and mid-term oral exams. All the exams were online, even though the second group had courses face-to-face. The procedures of the exams were the same for both groups. Since there is no pre-speaking test for none of the groups, I aimed to see whether the second group which is receiving the classes face-to-face will increase their speaking exam score significantly or not. The study aims to see whether there is a difference between those two ways of teaching or not. In the end, if I cannot find a significant difference to reject the hypothesis, I will state that it is not about being online or face-to-face, but it is all about students' effort.

Weaknesses

One of the weaknesses of my research will be using two different groups. Since the conditions and exhaustion of students are not the same, there might be some extraneous variables unrealized. So, at the end of the research, if there is a significant difference, then I will raise the question to the school administration to research the same group and have our lessons both face-to-face and online to make sure the only change is the way of teaching which is the platform we teach them: online or face-to-face. With this, the teaching system can change in some of the schools and the geographically unlucky students can have a chance of attending different classes in different cities and even countries.

Analysis

After collecting data, I typed the grades of both groups in SPSS and analysed them to see whether there is a significant difference between the success of the two groups or not. I compared each exam results of each group and check whether there is a significant difference or not. Since I want to see their success in speaking, I focused on their oral exam results. If one group was significantly different in the oral exam compared to other exams, I could say that the way of teaching, instructing differs on students' speaking performances.

RESULTS AND DISCUSSION

In this part of the study, I will talk about the results of the study. I ran the exam results of both groups in SPSS. I used an independent T-test for comparing each exam from two groups. I got the tables from SPSS, and you can find the interpretation below.

Results

Table 1 Descriptive statistics of online and face-to-face group quiz 1 results (N=300)

Instruction Types	Mean	Std. Deviation
Online	75,58	,82
Face-to-face	79,99	1,19

As table 1 shows, the means and the standard deviations are not very similar to each other. However, they are not enough for us to see whether there is a difference worth paying attention to or not.

Table 2 Independent T-test of online and face-to-face group quiz 1 results

		t	df	Sig. (2-tailed)
Quiz 1	Equal variances assumed	-3,024	298	,003

To understand whether we can talk about a significant difference, we can look at table 2. It tells us the T score, which should be more than the critical T score (Appendix B). For more than 120 df, the T score should be more than 1,98. As we can see in the table the score of the test is -3,024 which is enough for us to say that we have the minimum T score. Also, when we look at the significance of the outcome, we can say that the difference between the two groups is significantly different. To conclude, the online group was significantly more successful than the face-to-face group in quiz 1.

Table 3 Descriptive statistics of online and face-to-face group quiz 2 results (N=300)

Instruction Types	Mean	Std. Deviation
Online	74,20	1,01
Face-to-face	64,82	1,23

After comparing the quiz 1 results and checking the significance, in table 3 we can see the statistics of quiz 2 results of the groups. While their means do not look close to each other unlike quiz 1, we can see less difference between standard deviations compared to quiz 1 results. We can say that the variety of the students is more in the face-to-face group compared to the online group. The online group is more homogenous than the face-to-face group.

Table 4 Independent T-test of online and face-to-face group quiz 2 results

		t	df	Sig. (2-tailed)
Quiz 2	Equal variances assumed	5,85	298	,000

Table 4 tells us that the difference between the groups is significant. The T score is over 1,98 and the significance is ,000 which shows us that quiz 2 scores of the groups are also significantly different. So, it might lead us to think that online education was more successful, or students learned better with the online system. There might be also other extraneous variables that we cannot see.

Table 5 Descriptive statistics of online and face-to-face group oral exam results (N=300)

Instruction Types	Mean	Std. Deviation
Online	64,88	15,36
Face-to-face	63,26	14,96

Lastly, I compared the oral exam results of the groups. Table 5 tells us that the means of the groups are not the same and this time the difference of the means is the lowest compared to the other two exam results. Also, the standard deviation is different in each group. Again, we can talk about heterogeneity for the online group and more

homogeneity for the face-to-face group. The variety of scores in the online group is more than in the face-to-face group. However, this table is not enough for us to see the significance to have an idea about the difference.

Table 6 Independent T-test of online and face-to-face group oral exam results

		t	df	Sig. (2-tailed)
Oral Exam	Equal variances assumed	,952	298	,356

By looking at table 6, we can see that the difference between the groups is not significant. Even though we could mention significant differences between groups in terms of quiz 1 and quiz 2 scores, we cannot talk about a difference in the oral performances of the students which are about the instruction type.

Discussion

As we can see in the results section, there is no significant difference between the oral exam scores of the students. However, there is a significant difference between their quiz 1 and quiz 2 results. To be able to reject the null hypothesis, we should have seen a higher significance in the comparison of the oral exam results, however, it does not give us anything to do so. So, I cannot reject the null hypothesis in this study.

In the comparison of quiz 1, I did not expect a difference because in our school my colleagues mostly believe that students cannot learn as well as they do face-to-face. Also, the participation of the sessions was lower compared to face-to-face sessions. After 10 weeks of instruction, quiz 2 results also showed us a difference. The only difference between the groups is the instruction type, so we can say that online teaching was more successful in our study. There might be other variables that affected the results. As we know, in the 2019-2020 academic year, the coronavirus was at its peak and there were many restrictions, so students had to stay at home. They might have studied more compared to the face-to-face group since they could not go outside and socialize. It is just an assumption after looking at the results. To be able to conclude it more clearly, we should have more participants from other universities and different cities. Also, because they were using computers, they had a chance to reach all the online dictionaries while they were listening to the instructors. It might have improved their vocabulary

knowledge. Besides, all the instructors recorded their sessions, so the students had a chance to go back and watch the session again. My purpose was not to see the difference between them but still, it gave us results that we can discuss. Lastly, we saw the comparison of the oral exam results. To be able to say that the instruction types matter on students' speaking performances, we should have seen a significant difference between the oral exam results. But we cannot talk about any difference that is coming from the instruction type. The oral exam score differences we can see in the tables are not worth taking into consideration for this study.

Implications

The study aimed to see whether the way we instruct the students change anything on their speaking performances or not. With the change in the world, the way we teach our student varies. Especially, online education has a bigger part now after the pandemic of covid-19. After it disappears, having online education will still have its benefits for most of the students. However, the discussion going on in my school was mostly about the speaking performances of the students and how online education cannot be effective in improving their speaking performances. When we look at the results, we can say that the way we teach them does not make a significant difference, so the schools do not have to consider whether the education is online or face-to-face in terms of students' speaking performances a lot while preparing their curriculum.

Delimitations

In this study, I just focused on the exam results of the students. I did the study just with A2 level students. I had 300 students in this study and 150 in each group. While it was their first online experience with the online group, face-to-face education has been always in their lives of the face-to-face group. The way they approached classes, the system, and the skills could be different in each group.

Limitations

Both groups had different experiences. Even though all the instructions and the teachers were the same for each group, other factors might affect their performances. Firstly, the online group did not have any physical interaction with their friends and teachers. They were all at home and maybe in the same room with others. They might have

some internet connection problems. Their devices might not be enough to communicate well during online classes. The exhaustion might be different in both groups.

Suggestions for Further Studies

In this study, I wanted to see and show whether taking courses online or face-to-face makes any difference in students' speaking performances. For further studies, using two different groups at the same time and examining how they are doing is a better idea. Since the timing was different in my study, I could not make sure whether the extraneous variables were the same for both classes. But having two groups synchronically might help the researcher make better conclusions. Besides, since we could see significant differences in their quiz results, I recommend to check on those more to see whether online education is more beneficial for students when it comes to an exam.

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Training on CEFR-Leveled Item Writing for Language Instructors

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Abstract: Majority of the Schools of Foreign Languages (SFLs) in Turkish universities teach general and academic English to their newly enrolled students. These schools mostly use proficiency levels designated by Common European Framework of Reference (CEFR) to place students to the appropriate levels and assess students' achievement. Preparing valid and reliable exams becomes essential; however, there is a lack of experts in exam preparation. Thus, there is an urgent need to train English instructors to prepare valid and reliable tests. Considering these, we conducted a training for instructors in various SFLs. The training focused on item writing for reading and listening skills using CEFR levels and consisted of nine sessions having a different purpose each time. After these sessions, the participants (N=36) were asked to write reading and listening questions for assigned CEFR levels. At the end, a survey was conducted to get reflections and a certificate of participation was issued. The post-training survey results showed that the instructors were satisfied with this training and improved their competence in item writing. This paper aims to share how a training for the language instructors can be designed and implemented followed by some future implications.

Keywords: teacher training, language schools, CEFR level, item writing

Introduction

Majority of Turkish universities require their newly enrolled students to attend one-year compulsory preparation school in which they learn English in the universities' Schools of Foreign Languages (SFLs). There is not a common course of instruction among these schools, which makes each institution a unique school setting (Aydin et al., 2016). However, most of these SFLs follow Common European Framework of Reference (CEFR) to design, teach and assess English skills of the students. The SFLs generally designed to teach all language skills (reading, writing, listening, speaking, grammar, and vocabulary) either separated or integrated. The semesters are generally divided into quarters with seven-week intensive instruction with one-week assessment. They use the CEFR criteria to designate the proficiency levels (starting from A1 to B2 levels). Upon reaching C1 level, the students are seen as proficient, and then, they continue their studies in their faculties. Language instructors working in these SFLs are graduates of various language related departments such as English language teaching (ELT), English Language and Literature, and Linguistics. Additionally, the recent graduates are expected to have an MA in one of these departments. Thus, teacher body generally varies in terms of years of expertise and department of graduation.

Language instructors working for SLFs using CEFR as a reference to offer their courses are expected to have information about the CEFR levels and their use for teaching and assessing their students' language skills. As it is defined in CEFR, each level has specific can-do statements (Council of Europe, 2020), and the levels designated are called A1, A2, B1, B2, C1, and C2 indicating the beginning level (A1) to advanced (C2). Although the SFLs tend to use CEFR for designing courses and materials, teaching the content, and creating evaluations for placement or proficiency, they rarely provide professional development opportunities for their instructors on CEFR and its use, which makes the training on CEFR for pre-service and in-service teachers highly essential (Çağatay & Gürocak, 2016).

As the assessment criteria vary among universities, there is not one common way to prepare exams. Most of the SFLs either form testing units composed of 4-7 instructors (Aydin et al., 2016) so that they can focus on preparing exams only or ask individual instructors to prepare such tests occasionally, rarely do the SFLs buy tests prepared by publishing companies. As a result, in addition to having teaching duties, majority of the language instructors in SFLs are asked to prepare exams for mid-semester evaluation and for proficiency exams at the beginning and at the end of the semester. They use various exam questions to assess the language skills taught; however, it is apparent that majority of the schools tend to prepare exams with multiple choice questions (MCQs), especially for proficiency exams (Aydin et al., 2016).

Despite having great easiness to score the exams, MCQs require greatest attention to prepare, as there are numerous features of good multiple-choice questions (Burton et al., 1991). As for the assessment field, an item consists of a question (stem) and several options/alternatives to choose from. There are several types of multiple-choice questions, but the most common one is having only one correct option among several alternatives, and those alternatives which are the wrong answers are called distractors (Burton et al., 1991). Several of the features of MCQ items can be listed as (Burton et al., 1991):

- Items assessing only for one clear objective
- Items with clear stems with relevant information.

- Items avoiding negation in the stem.
- Items having options from relevant content.
- Items having distractors that can discriminate between high-achievers and low-achievers.

Another important aspect of creating MCQs is to achieve reliability and validity as much as possible. Having a valid and reliable test is one of the most essential features of a test. Nevertheless, SFLs reported to have inadequate time to check the validity and reliability of the exams they prepared (Aydin et al., 2016). In addition to this, it is mostly found that the instructors preparing such exams are not specifically graduated from departments such as Assessment and Evaluation. They mostly refer back to the information they get in their undergraduate degrees if they were in the language education departments in which they take Exam Preparation course in their fourth year and as long as their instructors decide to include exam preparation with multiple-choice questions specifically. If they are graduates of other departments they have not been introduced with assessment unless they have MA or personal interest to improve their assessment skills. In other words, majority of the language instructors working for SFLs lack the information necessary for preparing valid and reliable exams (Allason & Notar, 2019; Hatipoğlu, 2015). As a result, teacher training for preparing good exams becomes really crucial.

With the increasing number of university students enrolled to the SFLs each year all around Turkey, and the inadequate number of language instructors, it is getting harder for SFLs to ask their instructors to prepare valid and reliable tests. Advancements in the computer technologies can be a good resort to eliminate the workload of the language instructors, as the SFLs will use computerized versions of the language exams. Although there are various tests prepared by various publication companies, they are either too much expensive for the SFLs or not comply with the unique expectations of the schools. Seeing the importance of eliminating the workload of instructors with providing them with valid and reliable test, we, as researchers, decided to commence a project titled "Use of Computerized Adaptive Testing in English Preparatory Programs" with TUBITAK support. There are multiple phases of the project, one of which is the focus of this paper. This paper aims to share the training phase of the project. Although it is found that language instructors require training on CEFR and assessment, there is dearth of research focusing on both at the same time. To the best of our knowledge, this training as part of the project can be the only one focusing on item writing for CEFR reading and listening skills, especially in Turkish context. The research questions guiding this paper are:

1. How do language instructors participating the training on item writing with CEFR levels perceive the training?
2. How can a training focusing on CEFR and item writing be designed, implemented and improved?

Methodology

This study quantitative in nature (Creswell, 2009). The data were collected with a survey having both quantitative and qualitative questions. After getting the TUBITAK support for the project, the project

team prepared a survey to be disseminated to the SFLs around Turkey. This initial survey asked participants to share their previous knowledge and training on CEFR and item writing and their years of expertise. Among these participants, 36 participants were selected depending on their previous knowledge and years of expertise. For the ultimate aim of the project, the selected participants had some level of knowledge about item writing and CEFR. The survey about the training was sent to the participants a week after the training, and 29 of the participants filled the survey with an 80% response rate. The survey asked about participants' previous experience and familiarity with item writing and the CEFR and the use of CEFR, and their ideas about each training session. Additionally, they were asked to complete several sentences such as "Before attending these trainings, I thought that my biggest deficiency in CEFR and item writing was…." Language instructors were also given the opportunity to share their suggestions and additional comments for overall training and each training sessions. The survey data analyzed descriptively.

The Training

In the initial survey data, the instructors were given several options for the date and time of the trainings. Upon reaching a consensus which would be appropriate for both participants and the research team, the trainings were held on Mondays and Thursdays starting in March and finishing in April. Although the trainings were planned to be held face-to-face, due to the breakout of COVID-19, we decided to continue the project with the use of online meeting tools. Thus, all the sessions were held online on the designated date and time. Google Classroom was used for material sharing, assignments and pre-session quizzes. Nine sessions were held in total starting with an introductory meeting and ending with a Q and A session. The order of the remaining sessions are as follows:

- Introduction to CEFR
- CEFR descriptors for Reading Skill
- CEFR descriptors for Listening Skill
- Sessions on item writing

In the introduction to CEFR session, one of the researchers who is expert on using CEFR introduced the CEFR to the instructors with some basic information, its development, key features, importance and use for material design and assessment. In the following two sessions, the specific descriptors for reading and listening skills were introduced with some examples. For example, one A2 level descriptor is an A2 level learner "can understand short, simple texts on familiar matters of a concrete type which consist of high frequency every day or job-related language" (Council of Europe, 2020, p. 54), and an example text was provided for the instructors about this descriptor. Three sessions on item writing followed these CEFR related sessions. In these item writing sessions, concepts like reliability and validity were discussed, and then, specific features that require attention for creating multiple choice questions were introduced. Several pre-session quizzes and assignments were given to see the previous knowledge of the instructors and to assess whether they acquired the intended objectives. In the assignments, instructors were asked to create original questions for reading and listening. The instructors reviewed each other's questions followed by a careful examination by the research team. After examining theses initial questions, one final session was held to show the common problems with

the items (which is going to be presented in detail in another proceedings paper, Arabaci Atlamaz et al., 2022) and discuss any issues that were unclear for the instructors. At the end of the training, all of the participants received a certificate of attendance. Seeing the importance of participant feedback on the design and implementation of this training, which could be the only one of its type, a week after the training, a survey, which is the main data tool for this paper, was sent to the instructors.

Results

This paper, which is part of a larger project, aimed to understand the participants' feedback on the training of CEFR-leveled item writing with a survey. The survey data were analyzed descriptively. Several items related to the participants' perceptions about the instructors' need of a training like this was discussed in another proceedings paper (Yakar et al., 2021). This paper focuses on the instructors' feedback on the design, implementation, and usefulness of this training along with some suggestions for improvement in case the training would be repeated.

The survey asked about the previous experience with CEFR and item writing, and only six participants out of 29 indicated no experience with CEFR or item writing. In this respect, the familiarity with item writing was slightly higher than familiarity with CEFR. In line with this, four participants indicated that they do not use CEFR. Others reported to use CEFR mostly for testing and curriculum development. As for satisfaction with the trainers, majority of the participants (N=26) indicated that the trainers encouraged participation and asking questions. One of the participants commented that "I enjoyed how the instructors encouraged participation and provided multiple venues of discourse". It seems that the trainers coming from various backgrounds from ELT and Assessment and Evaluation departments were able to create a sense of community and meet the participants' needs and expectations. It is also shared in the remaining data.

About the specific features of the training, nearly 90% found the overall training satisfactory (N=26), and the training met their needs and expectations (N=25), presented in an almost interesting manner (N=20), covered the promised objectives (N=27), and held adequately in length (N=25) and number (N=26). The participants also shared specific comments for each question to show their satisfaction, as one of them wrote "I looked forward to the sessions. I learned a lot from each and every one of you. Therefore, I wish we had one more week with you" and another one shared "Overall, I enjoyed the sessions and got a lot out of them. There were things that were explained that I had not encountered before, and I am always happy to learn something new". Apparently, all of the participants except one were highly satisfied with the trainings and were glad to be part of the project. When the data were examined to understand the details for that one participant who was dissatisfied, it was found that that instructor was already familiar with the CEFR and item writing and had an expertise on using CEFR for assessment, and thus may not have found it satisfactory for his/her goals while attending the training.

The researchers also wanted to learn about the overall knowledge gain after the trainings by asking the participants to fill the sentences "Before attending these trainings, I thought that my biggest deficiency in CEFR and item writing was….", "However, after the training, I realized that I was lacking .....", and "Now I think my skills on CEFR and item writing ...." The results showed that majority of the instructors reported that they lack the information on how to write good plausible distractors and checking the appropriate CEFR level of a text. In addition to these, one participant shared the deficiency in "relating these two notions to each other." It seems that the language instructor did not have enough

information about either CEFR or item writing or both. For the next statement, reflecting on their previous knowledge, instructors indicated that they realized to have lack of information on writing good plausible distractors and features of items that would be produced appropriately for CEFR levels. When their ideas of their skills on CEFR and item writing were asked, nearly all of the participant used the words "improved" or "better" to show their improvement. A couple of them indicated that they improved, but still needed more practice. In line with this, when the participants were asked about the most useful part of the training, most of them replied that they "benefited a lot from each and every session." Some shared the sessions on item writing were the most useful ones, while others found the discussion and peer review of the items they created as part of the assignment very helpful.

The participants were also asked about their perceptions on their competency on the training topic. 23 of them agreed to feel competent in item writing, 21 of them agreed to feel competent in CEFR, and 22 of them agreed to feel competent in item writing for CEFR, and none of the participants disagreed for any of these questions except one participant in competency in CEFR. Several of them commented to have more sessions like this. For example, one of the participants suggested that "Such trainings are great opportunities to raise awareness about these important matters. They should be done on a regular basis in every institution," and another one expected that "Hope you may have a sustainability in such trainings, and you may organize more." All in all, with various activities, the training met the intended objectives and satisfied the participants, as they felt improved and competent for item writing for CEFR.

As another aim of this study is to learn participants' suggestion for improvement, the participants were given the opportunity to comment on each session as well as training as a whole. Although majority of the participants were highly satisfied with the trainings, several participants shared a couple of suggestions for improvement. Most of the participants answered that they found everything useful when they were asked about the least useful part of the training. However, several others suggested to have more practical sessions in which the participants could practice item writing more and in detail. Along with this, a couple of them found sessions on listening comprehension and item writing a bit complicated, as they expected to have more examples and less theoretical information.

Discussion and Conclusion

This paper focused on the training evaluation of participants who attended nine online sessions on CEFR-leveled item writing. Although the study only used the survey data of 29 participants, it is apparent that there is a huge need on training for CEFR and item writing. The self-report and the researchers' observations revealed that teachers have problems in writing good items, specifically with good distractors as it is found in Kaplan and Atalmış (2019) and Karadağ (2005), and shared in Burton et al. (1991). Thus, it becomes apparent that item writing and CEFR levels should be introduced to pre-service teachers and should be part of professional development programs for in-service teachers, as the participants in this study commented on having more of this training. As Aydin et al. (2016), Çağatay and Gürocak (2016), and Hismanoglu (2013) indicated, the results of this study showed that teachers need explicit training on item writing and CEFR if they are using it in the institution. As the participants shared lack of knowledge on item writing for CEFR, more and more trainings on CEFR-leveled item writing should be designed and implemented for language instructors.

Although conducted online, the training sessions held as part of this study have promising features and can be implemented with the modifications based on the specific needs of SFLs. Garet et al. (2001) and

Silberman and Auerbach (2006) shared that trainings are mostly successful when they are connected to the participants' field, meet their needs, and during which they can learn information ready to use in their professions. The results show that this training was successful, as participants reported to be able to use the information in their profession and that the training met their needs. Referring back to the suggestions with less theoretical information and more practical activities, the trainings like this had better be more practice-oriented with less theory, and definitely tailored towards participant needs. Further research could be done to see the information retention of the participants and implementing this training to more language instructors as well as teacher candidates to prepare them for their future profession.

In conclusion, this study on the evaluation of the training phase of the larger project revealed that it is crucial to design interactive online or face-to-face training sessions on item writing with CEFR levels not only for in-service teachers but also for pre-service teachers.

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Eğitimde Yeni Bir Yöntem: Storigami ve Çocuk Gelişimine Katkıları

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Özet: Teknolojik gelişmelerin, yaşamın her alanında ivme kazandığı bu süreçte, özellikle formal eğitimde basit ve farklı etkinliklerle karşı karşıya getirilen çocukların, eğlenerek öğrenmelerini gerçekleştirmek ve öğrenilen becerilerin kalıcılığını güçlendirmek için aktif bir şekilde dahil oldukları çalışmaların varlığı, anlamlı sonuçlar doğurabilmektedir. Bu noktada yaşamın her döneminde içindeki çocuğa seslenebilen, çocukluk anılarıyla keyiflenebilen ve o çocuğu tüm zorluklara rağmen yaşatabilen yetişkinler ile kronolojik yaş itibariyle çocukluk çağını yaşayanların yalın bir anlatım diliyle aktarılan hikâyelerden etkilendikleri düşünülmekte, merak, heyecan ve zevk unsuru taşıyan bu eserlerin (Biçici, 2006) her yaş için ayrı bir değer taşıdığı ifade edilmektedir. Bu hususta hikâye anlatım yöntemleri de ayrı bir öneme sahiptir. Düz anlatım yoluyla ya da hikâye kitabı, hikâye kartları, kuklalar vb. farklı materyaller kullanılarak anlatım yapılabildiği gibi son yıllarda origami ile de hikâye anlatılabilmektedir. Matematik ve geometri alanında etkili bir öğretme ve öğrenme aracı olan origami, eğitimde ayrıca hikâye anlatma uygulamalarında da kullanılabilmekte ve bu yöntem, storigami olarak ifade edilmektedir. Bu bölümde, origami eşliğinde hikâye anlatımı detaylandırılacak, her kademeden inovatif yapıya sahip öğretmenlerin, hitap ettikleri çocuk gruplarına yönelik belirledikleri hedeflere ulaşabilmelerinde farklı bir yöntem olarak kullanabilecekleri storigaminin, çocuk gelişimine katkıları açıklanacaktır.

Anahtar Kelimeler: hikâye anlatma, origami, storigami, çocuk gelişimi

Giriş

Sanayi toplumunun, yerini bilgi toplumuna bıraktığı bu yüzyılda, hayatımızda sayısız değişim ve gelişim meydana gelmiş, daha konforlu bir yaşam sürdürebilmek amacıyla ileri düzey bilgi ve beceriye sahip olma çabası içerisine girilmiştir. Kişiler arası rekabetin arttığı günümüzde, kazanılan yeterliğin korunması ve hatta bir üst seviyeye taşınması için yaşam boyu öğrenme gayretinin devamlılığı önem arz etmektedir. Bilindiği gibi öğrenme, bireyin kendi yaşantısı yoluyla davranışlarında meydana gelen değişmedir. Eğitim ise istendik öğrenmeleri oluşturma süreci olarak ifade edilebilmektedir (Senemoğlu, 2018). Okul öncesinden başlayarak yaşamımızın azımsanmayacak bir bölümünü kapsayan formal eğitim sürecinde baş role sahip, araştıran, sorgulayan, yeniliklere açık, nitelikli öğretmenlerin, 21. yy. becerileriyle donanmış yeni kuşakların yetiştirilmelerinde taşıdığı sorumluluk, yadsınamayacak kadar büyüktür.

Doğumla birlikte kendisi başta olmak üzere etrafında yer alan canlı ve cansız varlıkları keşfederek yaşama başlayan çocuklar, dünyayı tanımaya, anlamaya, bağlantılar kurmaya çalışarak ve bunları yetişkinler tarafından sağlanan fırsatlarla gerçekleştirerek gelişmeye ve öğrenmeye yönelmektedirler. İlgi ve merak açılarından üst düzey potansiyele sahip olunan erken çocukluk döneminde, yaratıcı-destekleyici öğrenme ortam ve materyallerinin sunulması, çocukları araştırmaya, sorgulamaya, öğrenmeye ve öğrendiklerini uygulamaya yönlendirerek gelişimsel açıdan hızlı bir değişim sürecine dahil etmektedir. Bu noktada çocukların ilk karşılaştıkları yetişkinler olan anne-babaların ve eğitim-öğretim sürecinde tanıştıkları öğretmenlerin sundukları ortam ve materyaller, büyük bir öneme sahiptir. Bu ortam ve materyaller, iletişim, yaşam boyu öğrenme, kendini kontrol etme, güçlüklerin üstesinden gelme, kritik düşünme, farklı bakış açısı edinme ve bağlantılar kurarak odaklanma başlıklarından oluşan temel yaşam becerilerinin (Galinsky, 2010; Galinsky, 2016) kazanılmasına destek olmakta, 21. yy. becerileriyle benzerlik göstermekte (Partnership for 21st Century Learning, 2015), eleştirel düşünme ve problem çözme, iletişim, işbirliği ve yaratıcılık alt becerilerinden oluşan öğrenme ve yenilik becerileri, Galinsky (2016)'nin vurguladığı yaşam becerilerine işaret etmektedir.

Teknolojik gelişmelerin, yaşamın her alanında ivme kazandığı bu süreçte, özellikle formal eğitimde basit ve farklı uygulamalar, materyallerle karşı karşıya getirilen çocukların, eğlenerek öğrenmelerini gerçekleştirmek ve öğrenilen becerilerin kalıcılığını güçlendirmek için aktif bir şekilde dahil oldukları çalışmaların varlığı, anlamlı sonuçlar doğurabilmektedir. Bu noktada yaşamın her döneminde içindeki çocuğa seslenebilen, çocukluk anılarıyla keyiflenebilen ve o çocuğu tüm zorluklara rağmen yaşatabilen yetişkinler ile kronolojik yaş itibariyle çocukluk çağını yaşayanların yalın bir anlatım diliyle aktarılan hikâyelerden etkilendikleri düşünülmekte, merak, heyecan ve zevk unsuru taşıyan bu eserlerin (Biçici, 2006) her yaş için ayrı bir değer taşıdığı ifade edilmektedir. Kimi zaman eğitim sürecinin zenginleştirilmesinde, kimi zaman gerçekle hayal arasındaki o ince çizginin belirginleştirilmesinde ve kimi zaman da yaşantımızın tekdüzelikten sıyrılarak daha renkli ve akışkan bir ilerleme göstermesinde önemli etkiye sahip, eğlenceli materyaller olan hikâyeler, masal çağı ile roman çağı arasındaki dönem çocuklarının ilgisini çeken ve kısa olmaları nedeniyle kolay okunabilen edebi bir tür olarak karşımıza çıkmaktadır.

Hikâye

Türk Dil Kurumu Güncel Türkçe Sözlüğünde, gerçek veya tasarlanmış olayları anlatan düzyazı türü, öykü olarak tanımlanan (TDK, 2022) hikâye, belirli bir zamanda, yerde ve genel olarak az sayıda kişi arasında geçen, gerçeğe uygun olayların anlatımı ve karakterlerin çizimiyle zenginleştirilen, eğlendirici ve öğretici özellikler barındıran kısa yazılar şeklinde de ifade edilmektedir (Köken, 2018; Oğuzkan, 2013). Hikâyeler, çocukların yaşamlarında karşılaşabilecekleri problemlere alternatif çözüm yolları bulabilmeleri için farklı fikirler geliştirilmesini sağlayan, neden-sonuç ilişkilerinin anlaşılmasına fırsat sunan doğal bir öğrenme ortamına sahiptirler. İyi bir kurguya ve olay dizisine sahip hikâyeler, çocukların kendi yaşamlarına dair beklenti ve ideallerini oluşturmalarına, farklı yaşamlar hakkında da yeni deneyimler kazanmalarına olanak sağlamaktadır. Bu konuda en temel ögelerden biri elbette karakterler ve onların barındırdıkları özellikleridir. Çocuklar, hikâyede benimsedikleri karakterle özdeşim kurarak, ifadelerini, tarzını, davranışlarını ve hatta sorunlara karşı yaklaşımlarını örnek almakta, "onun gibi" düşünmek, konuşmak, hareket etmek, dünyayı algılamak ve sorun çözmek çabası içerisine girebilmektedirler. Bu noktada, özellikle küçük yaş çocuklarına sunulan hikâyelerin karakterler açısından iyi seçilmiş olması, özdeşim sürecinde olumlu örneklerle karşılaşmalarının sağlanması, çocuklar üzerinde kalıcı izler bırakmaları nedeniyle önem arz etmektedir. Dolayısıyla hikâyelerde çocuğa görelik ilkesinin dikkate alınması gerektiği; kendisini, çevresini ve içinde yaşadığı toplumu anlama ve değerlendirme becerisini güçlendirecek hikâyelerin, önemli bir iletişim becerisi olan empati kurmanın ilk basamağı olacağı unutulmamalıdır.

Hikâyeler, çocuğa bilgi sunma, karşılaştığı olaylara veya sorunlara farklı bakış açılarıyla yaklaşma, estetik değer kazandırma ve çok daha farklı işlevleriyle bir eğitim aracı olarak düşünülebilmektedir. Bir yandan eğlendiren, hayal gücünü zenginleştiren hikâyeler, gerçek yaşamla ilgili kesitler sunarak, bilginin, dolaylı olarak çocuğa aktarılmasını ve bu sayede çocuğun da kısa bir olay örgüsü içerisinde hayata dair kazanımları yakalamasını sağlamaktadır. Bu açıdan yaşanmış ya da yaşanabilme ihtimali olan olayları çocuğa aktarmak ve hatta yaşamadan tecrübe edinmesini sağlamak açılarından da önemli görülen hikâyelerin konuları, aktarım şekilleri ile bu esnada kullanılan jest ve mimikler, çocuğun gelişim düzeyine, ilgi ve ihtiyacına göre belirlenmeli, bu sayede optimum düzeyde fayda sağlaması da gözden kaçırılmamalıdır.

Hikâye Anlatma

Hikâye anlatma, anlatan ile dinleyen arasında güçlü duygusal bir bağın kurulduğu, yaratıcılığın desteklendiği, etkileşimin yoğun yaşandığı, önemli bir sosyal tecrübe olarak kabul edilmekte (Keller, 2012; Smyth, 2005), özellikle erken çocukluk döneminde de başvurulması gereken bir etkinlik türü olarak görülmektedir. Anlatıcı ister ebeveyn ister öğretmen olsun, anlatım esnasında gösterdiği performans düzeyi ile çocuğun dikkatini kendi üzerine ve dolayısıyla da hikâyeye çekebilmektedir. Bir başka deyişle hikâye anlatımı esnasında kullanılan ses tonu, mimik ve jestler ile hikâyeye hakimiyet gibi unsurların, çocuğun dikkatini yoğunlaştırmasına ve anlatımdan kopmadan etkinliği sonlandırmasına yardımcı olabileceği düşünülmektedir. Bu sayede hem anlatıcı olarak doğru rol model olunması, hem de iletilmek istenen bilginin ya da mesajın dolaylı olarak çocuğa ulaştırılması sağlanmaktadır. Ebeveynlerin daha ziyade okuma şeklinde ele aldıkları hikâyeler, erken çocukluk döneminde öğretmenler tarafından birçok farklı yöntem kullanılarak çocuklarla buluşturulmaktadır. Bu sayede hem çocukların ilgi ve dikkat seviyeleri

artmakta hem de çocuklarla birlikte öğretmenin de gerçekleştirdiği anlatım sürecinden keyif alması sağlanmaktadır. Anlatıcının da dinleyenlerle birlikte haz alarak tamamladığı hikâye anlatma sürecinin, öğretmen-çocuk etkileşimini arttırdığı ve mesleki tatmini geliştirdiği, etkinliğin amacına ulaşmasını ve çocuklarda gelişimsel katkıların açığa çıkmasını sağlama yönünde faydalı olduğu düşünülmektedir.

Gelişimsel Katkılar

Hikâye okuma/anlatma, erken çocukluk döneminde çocukların başta alıcı ve ifade edici dil gelişimleri olmak üzere, bilişsel, sosyal-duygusal ve hatta toplumsal gelişimlerini destekleme, kendi iç dünyalarını keşfetme, yaratıcılıklarını ve problem çözme becerilerini geliştirme imkânı sunan anadili etkinliklerinden birisidir. Bu etkinliklerde araç olarak kullanılan ya da ebeveynler veya öğretmenler tarafından daha önceden okunarak anlatımlarda etkilenilen, yol gösteren, rehberlik eden hikâye kitapları, çocukların gelişimleri üzerinde önemli katkılar sağlamaktadır.

Dil Gelişimi

Dil, insanların birbirlerine bilgi, duygu, düşünce, görüş ve eğilimlerini aktarabilmelerine olanak sağlayan bir araç olarak ifade edilmektedir. Kültürel değerlerin nesilden nesile sözlü ya da yazılı kaynaklarla aktarılmasını sağlayan dil, aynı zamanda düşünme, bellek, muhakeme etme, problem çözme ve planlama gibi bilişsel süreçleri de içermektedir (Yavuzer, 2012). Doğduğu andan itibaren, yaşadığı çevre içerisindeki modelleri dinleyerek, bu modelleri taklit ederek, geri bildirimleri değerlendirip tekrarlama sürecinde taklit ettiği ifadeleri düzgünleştirerek, doğal yaşantılar içerisinde dili öğrenen çocuğun, ilk modellerinin anne-baba ve diğer aile büyükleri olduğu, toplumsal çevrenin ve okul yaşantısının başlamasıyla da bu modellerin öğretmenler ve arkadaşlarla genişlediği kabul edilmektedir. Elbette çocuğa model olan kişiler kadar dil açısından zengin uyaranların bulunduğu bir ortamın sunulması da büyük önem taşımakta, bu noktada devreye hikâye kitapları girmektedir. Sever (2015), anadilinin yapı ve işleyişine ilişkin ilk ipuçlarını sunan, dilin ve çizginin anlatım gücünü ve güzelliğini yansıtabilen hikâye kitaplarının, görsel ve dilsel uyaranlar olarak üç yaşından sonra çocuğun yaşamında yer edinmeye başladığını belirtmektedir.

Yapılan araştırmalarda, sesli okumanın, anlatım esnasında ses ve sözcüklerin doğru telaffuz edilmesinin, çocukların dinleme, taklit etme, konuşma, okuma ve yazma becerilerini geliştirmelerinde, dil bilinci ve duyarlılığı kazanmalarında, gramer yapısına ve dilin özelliklerine ilişkin bilgilerini arttırmada etkili olduğu sonucuyla karşılaşılmaktadır (Myers, 2012; Sever, 2015). Birçok araştırma küçük çocuklarla yapılan okuma etkinliklerinin, onların gelecekteki okuryazarlığına olumlu yönde katkılar sağladığını vurgulamakta; ebeveynlerin, çocuklarının dil kazanımlarına ilişkin sağladıkları uyarıcılarla, çocukların kelime haznelerinin büyüklüğü arasında doğrusal bir ilişkinin olduğunu belirtmektedir (Hepburn, Egan & Flynn, 2010). Bunun yanı sıra evde ve kreş/anaokulunda sık konuşulan, düzenli olarak okuma/anlatma etkinliklerine dahil edilen çocukların kelime dağarcıklarının gelişmesiyle birlikte karmaşık cümleler kurabildikleri, okuma-yazma becerilerini daha kolay kazandıkları da vurgulanmaktadır (Bee & Boyd, 2009; Ekici, 2014).

Okuma öncesi aşamada küçük çocuklar, okumayı öğrenme için gerekli olan temel dil becerilerini geliştirmeye başlamaktadırlar. Desteklenen alıcı dil becerileri duyduklarını anlama, kelime haznesini geliştirme, dinleme ve sözel düşünme becerilerinin inşa edilmesini sağlamakta, ifade edici dil becerilerinin gelişmesi de duygu ve düşüncelerini karşısındakine daha kolay iletilmesine yardımcı olmaktadır. Bu bilgilerden hareketle hikâye okuma etkinliklerinin, dil öğrenme üzerinde önemli bir fırsat olduğu kabul edilmektedir. Bu sayede çocuklarda konuşma dilinin gelişmesine yardımcı olunurken, düşünme, hayal etme, tanımlama, düşüncelerini ifade etme becerileri gelişmekte, okuma becerilerinin gelişimine de zemin hazırlanmaktadır.

Dolayısıyla hikâye okuma etkinliklerinin, alıcı ve ifade edici olmak üzere iki alt alandan oluşan dil gelişimine olumlu katkılar sağladığı ve bir çeşit sembol olarak kabul edilen kelimelerin, çocuk tarafından kullanılmaya başlanmasıyla birlikte dil gelişiminin temelinde yer alan bilişsel gelişimin de belirli bir aşamaya ulaştığı belirtilmektedir.

Bilişsel Gelişimi

Piaget ve arkadaşları, doğumdan ergenliğe uzanan süreçte bilişsel gelişimi ayrıntılı araştırmalarla incelemişler ve bazı kavramlarla algıların doğuştan itibaren kazanılmış olabileceğini belirlemişlerdir. Piaget, bebeklik döneminde, nesne devamlılığını, değişmezliğini düşünemeyen çocuğun, zamanla biçim ve büyüklük kavramlarını tanımaya başladığını ifade etmiştir (Akt. Yavuzer, 2012).

Piaget'nin temel ilgisi, doğumdan itibaren insan bilişinin gelişimi üzerinde yoğunlaşmaktadır. Biliş sözcüğü, dünyamızı öğrenmeyi ve anlamayı içeren zihinsel faaliyetler anlamına gelmekte ve aşağıda belirtilen süreçleri kapsamaktadır:

- *Algılama:* Gerek iç gerekse dış dünyadan edinilen bilgilerin yorumlanması, organize edilmesi ve yeniden bulunmasıdır.
- *Bellek:* Algılanan bilginin bulunup getirilmesi ve depo edilmesidir.
- *Muhakeme:* Bilginin, belirli bir anlam çıkarma ve sonuca varma amacıyla kullanılabilmesidir.
- *Düşünme:* Bilginin ve çözümlerin nitelikçe değerlendirilmesidir.
- *Kavrama:* Bilginin iki ya da daha fazla kısmı arasındaki yeni ilişkilerin tanınabilmesidir (Yavuzer, 2012).

Piaget'ye göre, çevredeki yeni deneyimlerden yararlanarak şemaları değiştirmek yoluyla problem çözme olarak tanımlanan uyum, organizmanın yeni durumları karşılaması için yapısındaki değişme sürecidir. Bebeklik döneminden itibaren keşfetme, deneme-yanılma, soru sorma, deneyimlerde bulunma gibi etkin olaylar biçiminde görülen uyum sayesinde, çocuğun şemaları giderek yüksek bir esnekliğe kavuşmakta ve bu şemalar, kendi bütünlükleri içinde organize olma özelliklerini sürdürerek yaygınlaşmakta ve biçim değiştirmektedirler. Bunun sonucunda da her birey çevresindeki olaylara bağlı olarak yeterli sayıdaki şemayı geliştirmeye ve çevresine uyum sağlamaya başlamaktadır (Akt. Yavuzer, 2012).

Bu bilgilerin ışığında hikâye kitapları sayesinde olayların belirli bir sıra izlediğini ve durumlar arası neden-sonuç ilişkisinin varlığını öğrenen çocuklar, hikâyelerin genellikle bir problem ve bu problemin somut çözümü üzerine kurulduğunu fark ederek, karşılaştıkları bir soruna nasıl çözüm bulunabileceğine yönelik becerilerini geliştirebilmektedirler. Ayrıca çocukların dikkatini yoğunlaştırma, kavram öğrenimini kolaylaştırma, öğrendiklerini yorumlama, analiz-sentez yapma, hayal gücünü geliştirme, farklı kültürleri ve bu kültürlere yönelik özellikleri tanıma ve dinleme sabrını kazanma becerilerinde de olumlu etkilere sahip olduğu belirtilmektedir (Senemoğlu, 2018).

Sosyal-Duygusal Gelişimi

Hikâye okuma/anlatma etkinlikleri okul öncesi dönem çocuklarının sosyal-duygusal gelişimlerini de önemli ölçüde desteklemektedir. Özellikle okul öncesi dönemde yaşlara göre duygusal gelişim açısından farklılıklar görüldüğü bilinmektedir. Üç-dört yaş arasında çocukta benlik kavramı gelişmeye ve kendisiyle ilgili duygu ve düşünceler oluşmaya başlamaktadır. Dolayısıyla bu dönemde çevresindeki bireylerin kendisiyle ilgili duygu ve düşüncelerinden de etkilenmektedir. Bu açıdan bakıldığında, çocuğun benlik saygısını geliştirecek tutum ve davranışlarda bulunulması, sıcak ve samimi bir iletişim içerisinde hikâye okuma etkinliklerinin gerçekleştirilmesi önem taşımaktadır. Dört-beş yaş aralığında çocuk, duygularını kontrol etmeyi öğrenmekte ancak beklenmedik durumlara karşı duygu kontrolünü kaybedebilmektedir. Duygularını denetlemeyi başaran karakterlerin bulunduğu hikâyeler, bu konuda çocuğa yardım edebilecek unsurlar arasında yer almaktadır. Beş-altı yaşlarında ise çocuk, akranlarıyla sosyal ilişkilerine önem vermekte, kurduğu iletişimler sayesinde özgüveni gelişmekte ancak yetişkinin ilgisine ve güvenine de ihtiyaç duymaktadır. Bu dönemde seçilecek hikâyelerin bu duyguları beslemesi ve çocukların kendilerini değerli hissetmelerini sağlayacak iletişimsel kurguya sahip olması da büyük önem taşımaktadır (Sever, 2015).

Benlik saygısını geliştirme, duygu kontrolü sağlama, kendine güvenme becerisini desteklemenin yanında arkadaş ilişkilerine önem verme, paylaşma, yardımlaşma, işbirliği kurma gibi hususlar da hikâye okuma/anlatma etkinlikleri sayesinde kolaylıkla kazanılmaktadır. Çocuk, kendi duygularının başka bireylerde de bulunduğunu ve doğal olduğunu hikâyeler aracılığıyla görebilmektedir. Korku, kıskançlık, öfke, nefret, hırs gibi duygularda aşırılığın verdiği zararları fark ederek, kontrol altına almak gerektiğini yine hikâyeler sayesinde öğrenebilmektedir. Tüm bunların yanında çevresini -insanı, doğayı, yaşamı- tanımak ve uyum sağlayabilmek, toplumsal rolleri öğrenmek ve benimsemek, kabul görebilmek, farklılıkları kabul ederek kendi yaşantısına dahil edebilmek gibi toplumsal becerilerin gelişimi açısından da hikâye okuma/anlatma etkinlikleri oldukça önemlidir (Ekici, 2014; Sever, 2015).

Kısaca çocukların güven duygusu, başarma ve başarılı olma, sevme sevilme, bir gruba kabul edilme, oyun ve değişiklik, estetik, öğrenme vb. ruhsal ihtiyaçlarını karşılayan, dil gelişimlerini hızlandıran, resimler yoluyla sanatın en güzel örneklerini keşfetmelerini sağlayan hikâye kitapları, edebiyatın biçim ve yapısı ile ilgili detayları içinde barındıran, çocuğa kitap sevgisini aşılayan, edebi ve estetik değerler kazandıran eserlerdir. Bu sayede edebiyatla tanışan, okunan hikâyeleri kendi kendine okumaya karşı istekli olan ve ileriki yıllarda okuma başarısını bu sayede arttıran çocuklarda, yazma stillerinin keşfi de beraberinde gelmektedir. Çocuklara yaşadığı kültüre ilişkin bilgiler aktarmaya ve farklı kültürleri tanıtmaya yardımcı olan hikâyeler, hayatta karşılaşacakları problemlere çözüm

üretebilmelerini sağlayan bilgiler sunarak, onların yaşam gerçeklerine hazırlanmalarına da zemin oluşturmaktadır. Sözel ifade kullanımından yazılı ifade kullanımına geçişi destekleyen, yaratıcı hayal gücünün uyarılmasını sağlayan, görsel algı ve küçük kas motor becerilerini destekleyen hikâye okuma, çocukların gelişmekte olan kişisel ve kişilerarası dünyalarına katkıda bulunmakta, benlik algılarını geliştirerek, hayata ve insanlara dair bakış açısı kazanmalarına yardımcı olmakta, dikkati odaklama, merak ve tahmin etme, hafızayı harekete geçirerek düşünme becerilerini desteklemekte, kavram ve dolayısıyla bilişsel gelişime de önemli katkılar sağlamaktadır (Gönen ve Veziroğlu, 2019).

Temel iletişim becerilerinin kazanılmasına, kelime dağarcığının gelişmesine ve kendini doğru bir şekilde ifade edebilme becerisinin desteklenmesine fırsat sağlayan hikâye anlatma etkinlikleri, farklı materyaller ve tekniklerle sunulduğunda, anlatım esnasında kullanılan ses tonu, jest ve mimikler ile anlatım şekli, gelişim seviyelerine ve yaşlarına uygun olarak belirlendiğinde, çocukların ilgisini çeken özel uygulamalar arasında yer almaktadır. Dolayısıyla hikâye anlatılan grubun düzeyi göz önüne alınmadan, monoton bir ses tonu kullanılan, duygu iletmeyen ve tekdüze gerçekleştirilen hikâye anlatma etkinlikleri, çocukların kitaplara, okumaya, dil etkinliklerine karşı daha başından tavır almalarına yol açabilmektedir.

Düz anlatım şeklinde gerçekleştirilebileceği gibi hikâye kitabı, hikâye kartları, kuklalar, pazen tahta kartı ve figürleri, televizyon-film şeridi, tepegöz, bilgisayar ve teyp kullanılarak da hikâye anlatımı yapılabilmektedir (Baş, 2011; Bektaş, 2010; Köken, 2018; Olgan, 2017; Tepetaş Cengiz, 2015; Türe Köse, 2019). Farklı materyaller kullanılarak gerçekleştirilebilen hikâye anlatımında amaç, çocukların ilgilerini çekmek ve dikkat sürelerinin elverdiği ölçüde anlatılanları dinlemelerine fırsat sağlamaktır. Günümüzde yaşanan gelişmelerle birlikte birçok hikâye anlatma yöntemi değerini yitirmiş ve yerlerini farklı yöntemlere bırakmıştır. Bu noktada ülkemizde henüz pek duyulmamış ve bu nedenle de yaygınlaşmamış farklı bir hikâye anlatma yönteminden bahsedilecektir.

Matematik ve geometri alanında etkili bir öğretme ve öğrenme aracı olan origami, eğitimde ayrıca hikâye anlatma uygulamalarında da kullanılabilmekte ve bu yöntem, storigami olarak ifade edilmektedir. Her kademeden inovatif yapıya sahip öğretmenlerin, hitap ettikleri çocuk gruplarına yönelik belirledikleri hedeflere ulaşabilmelerinde farklı bir yöntem olarak kullanabilecekleri storigamiye geçmeden origami hakkında bilgi vermenin uygun olacağı düşünülmektedir.

Origami

Son yıllarda matematik ve geometri alanında etkili bir öğretme ve öğrenme aracı olan origaminin bir diğer kullanım alanı da eğitimde hikâye anlatma uygulamalarıdır. Bilindiği gibi Japonca kökenli bir kelime olan origami katlanmış kâğıt anlamına gelmekte, klasik ve parçalı origami olmak üzere iki çeşitte karşımıza çıkmaktadır. Klasik origamide figürler genellikle tek parça kâğıttan katlanarak elde edilmekte, çok çeşitli hayvan, çiçek ve nesne figürleri yapılabilmektedir. Modüler origami olarak da bilinen parçalı origamide ise birbirine benzer birkaç parçanın birleştirilmesiyle genellikle üç boyutlu geometrik figürler oluşturulmaktadır (Hacisalihoğlu Karadeniz, 2017; Tuğrul ve Kavici, 2002; Ünan, Aksan ve Çelikler, 2016). Günümüzde origaminin birçok farklı türü daha ortaya çıkmıştır. Bunlar ıslak origami ve modern origami olarak iki başlık altında toplanmakta, kâğıdın ıslatılarak daha kolay şekil

aldığı uygulamada, kesme ve yapıştırma da yapılabilmektedir. Modern origami ise pop-up origami, mimari origami, book art origami ve kirigami olmak üzere dört alt gruba ayrılmaktadır (Ünlü, 2019). Kesme, boyama ve yapıştırma gibi işlemlerin yapılabildiği ve hatta eski, kullanılmayan kitaplar içinde üç boyutlu görüntülerin oluşturulduğu bu türler, daha çok yetişkinler ve profesyoneller tarafından gerçekleştirilmektedir (Hinders, 2019; Ünlü, 2019).

Origami yapımı, kâğıdın kenarlarını ve köşe noktalarını kullanarak bir parçanın katlanması ile oluşturulabilen geometrik işlemler şeklinde ifade edilebilmektedir. Katlanırken çocuğa ya da yetişkine zorluk yaşatmayacak nitelikte bir kâğıt parçasıyla yapılan origami çalışmalarında, grubun sahip olduğu becerilerin göz önüne alınması oldukça önemli bir husustur. Küçük yaş grubuyla yapılması planlanan uygulamalarda, kullanılan kağıtların kolay yırtılabilecek, katlamayı zorlaştırabilecek, kat izi göstermeyecek nitelikte, ne çok ince/kalın ne de kaygan olmamasına dikkat edilmelidir. Bu iş için özel olarak üretilen kağıtlar da mevcuttur ancak sıradan kağıtlarla da origami çalışmalarının yapılacağı bilinmelidir. Önemli olan katlaması yapılacak figürün, tekniğine uygun bir şekilde ortaya çıkarılmasıdır.

Görsel, işitsel ve kinestetik açıdan çocuğu destekleyerek öğrenmeyi eğlenceli hale dönüştüren origami, etkin öğrenme, işbirlikçi öğrenme, yaratıcı öğrenme, proje tabanlı öğrenme, beyin temelli öğrenme de dahil olmak üzere birçok çağdaş öğrenme yöntemiyle ilişkili etkinlik temelli bir yöntem olarak kabul edilmektedir (Tuğrul ve Kavici, 2002). Özellikle matematik, geometrik kavramlar ve mekânsal yetenekler üzerinde yoğunlaşan çalışmalarda origaminin etkili bir araç olarak kullanılabileceği belirtilmekte (Arıcı ve Aslan-Tutak, 2015; Boaks, 2009; Golan & Jackson, 2010; Zarei & Branch, 2015), ayrıca faydaları üzerinde de durulmaktadır. Levenson (2002)'a göre, tekrarlanabilir eylemlerle şematik öğrenmenin bir örneği olan origamide başarılı olmak için yakından izlemek ve yönergeleri dikkatle dinlemek gerekmektedir. Bu şekilde gerçekleştirilen origami uygulamaları çocuklara duygu ve düşüncelerini ifade etme fırsatı vermekte, bir kâğıdın farklı yollarla şekil değiştirebileceğini öğretmekte bu sayede onların özgüven gelişimlerini desteklemekte ve problem çözme becerilerini geliştirebilmektedir. Yuzawa ve Bart (2002), 5-6 yaş grubundaki çocuklarla gerçekleştirdikleri bir çalışmada, matematik öğretiminde origami yöntemini kullanmışlar ve çocuklar tarafından geometrik şekillerin büyüklüklerini karşılaştırmada kullanılan stratejilerin gelişmesinde önemli bir etkiye sahip olduğunu bulmuşlardır. Ülkemizde Türkoğuz ve Yayla (2010) tarafından görsel sanat etkinliklerinde origami yönteminin kullanılmasıyla ilgili yapılan bir çalışma sonucunda da öğrencilerin bireysel ilgi, yetenek ve öğrenme biçimlerinde önemli ölçüde gelişmeler kaydedildiği belirtilmiştir. Diğer çalışmalarda ise görsel ve mekânsal algı gelişiminin, mantıksal düşünme becerisinin ve hayal gücünün desteklenmesi; benlik saygısının oluşturulması, başarılı olma duygusunun geliştirilmesi; soru sorma, cevap verme, sıralama yapma vb. dilin etkili bir biçimde kullanılması ile el-göz koordinasyonunun desteklenmesi açısından origami kullanımının yararları ifade edilmektedir (Cipoletti &Wilson, 2004; Golan & Jackson, 2010; Kavici, 2005). Origami aynı zamanda hedefe ulaşabilmek için sabırlı olmayı, iyi gözlem yapmayı, işbirliği içinde çalışmayı ve insanlarla iletişim kurmayı geliştirerek, yardımlaşmayı öğretmektedir (Tuğrul ve Kavici, 2002).

Storigami

Hikâye anlatma ile origaminin birlikte gerçekleştirilmesiyle ortaya çıkan storigami aslında basit bir kavramdır. Bir hikâyenin okunması veya anlatılması sırasında kâğıt, bir eylemi, kurguyu veya karakteri tasvir edecek veya göz

önünde canlandıracak şekillerde katlanmakta ve hikâye sona erdiğinde üç boyutlu sürpriz bir figür oluşturulmaktadır. Okuyucunun ya da dinleyicinin zihni hikayedeki olayları, ilerleyen katlama adımlarıyla eşleştirmekte, hikâyeden keyif alırken, bir origami modeli de öğrenmektedir (Petrell Kallevig, 2009). Yapılan bir çalışmada origaminin kavramsal öğrenmeyi, kelime hazinesi oluşturmayı ve problem çözmeyi desteklediği belirtilmektedir (Currier, 2015). Mastin (2007)'e göre, origami kullanılarak hikâye anlatmanın hafızayı güçlendirmek, küçük kas motor gelişimini desteklemek, sol ve sağ beyin uyumunu geliştirmek, yaratıcılığı teşvik etmek vb. birçok faydaları bulunmaktadır. Oğuz (2016) da sınıf öğretmeni adaylarının görüşlerine yer verdiği ve origami aracılığıyla öykülerin nasıl aktarılacağını açıklamayı amaçladığı çalışmasında, origami ve hikâye anlatıcılığını birleştiren storigami yönteminin dil becerileri, sosyal, duyusal, psiko-motor beceriler, bilişsel gelişim, öğretim süreçleri ve öğrencilerin öğrenme motivasyonları üzerindeki olumlu etkilerini vurgulamaktadır. Özetle storigami yönteminin dinleme ve küçük kas motor becerilerinin gelişimini destekleme, beynin sağ (görselleştirme) ve sol (dil anlama) yarım kürelerine ilişkin becerileri geliştirme, çok duyuya yönelik bütünleşik öğrenmeye ve hafıza geliştirmeye önem verme, mekânsal ilişkileri inceleme-uygulama, yaratıcılığı ve sosyal becerileri geliştirme fırsatları sunma ile matematik, dil, sosyal çalışmalar, sanat ve bilim etkinliklerinde ek materyal sağlama gibi birçok eğitimsel faydaları bulunmaktadır (Petrell Kallevig, 2009).

Örnek Hikâyeler

Örnek 1: Hayal Kutusu

Uzak diyarların birinde geniş bir bahçenin ortasındaki küçük kulübede tek başına yaşayan bir adam varmış. Bahçesini ekip biçerek geçinir, kazandığı parayı biriktirip en büyük hayalini gerçekleştireceği günü iple çekermiş. Neymiş hayali biliyor musunuz? Kendisine yeni giysiler alıp, kalabalık bir restoranda yemek yemekmiş. Artık yalnızlıktan hiç hoşlanmıyormuş.

Bir gün hayalini gerçekleştirmek için yola koyulmuş ve kasabanın en büyük alışveriş merkezine gitmiş. Önce güzel bir kazak, bir çift çorap ve ayakkabı almış kendisine. Ancak pantolonuna hiç uymamış bu aldıkları. Bu yüzden aynı alışveriş merkezindeki pantolon reyonundan güzel bir pantolon da alıp geçirmiş üstüne.

Hayalinin ilk bölümünü gerçekleştirmenin mutluluğuyla alışveriş merkezinin karşısındaki restorana girmiş ve pencere kenarındaki büyük bir masaya oturmuş. Nehir kıyısındaki bu restoranda tek başına da olsa etrafındaki kalabalık bir anda çevresini sarıp sarmalamış adamın. Konuşmalar, gülüşmeler ve çocuk sesleri eşliğinde bitirmiş yemeğini…

Etrafına bakınırken uzaklarda bir yel değirmeni görmüş nehrin kıyısında. Masadan kalkmış, yediklerinin parasını ödemiş, gitmiş yel değirmeninin yakınına ve rüzgarla dans eden kanatlarını izlemiş bir süre…

Derken kıyıdaki terk edilmiş sandala gözü takılmış. Binmiş içine ve kürek çekmeye başlamış. Hayallerinin de ötesinde mutluymuş adam. Rüzgârın ağaç yapraklarında bıraktığı nağmeler ve kuş sesleri içini huzurla kaplamış.

Birden sandalın içindeki cüzdanı görmüş. İki gözlü cüzdanın önce bir gözünü açmış. Sağdan sola, soldan sağa, yukardan aşağıya bakmış. Bir şey yok. Kapatmış. Sonra ikinci gözünü açmış. Aynı şekilde sağdan sola, sola sağa ve yukarıdan aşağı bakmış. Orada da bir şey yok. Kapatmış bu gözü de. Kapatmış ama yeni hayallerini yükleyeceği kocaman bir kutuyu açmış aslında yaşamına… (Tanju Aslışen, 2019a)

Örnek 2: Raylarda Yolculuk

Masmavi bir gökyüzü görüyorum vagonun penceresinden.

Uçsuz bucaksız bir gökyüzü…

Tren ilerledikçe yüksek bir dağ görüyorum.

Tırmanarak en tepesine ulaşmak istediğim bir dağ…

Derken bir tünele giriyorum.

İçerisinden geçip aydınlıkla buluşacağım bir tünel…

Yol aldıkça bir yelkenli görüyorum denizde.

Rüzgârın esintisiyle, dalgaların arasında süzülen bir yelkenli…

Sonra mavi bir kuş görüyorum.

Sevgiyle kanat çırpan ve beni güzel rüyalara taşıyan bir kuş…

Derken uyanıyorum.

Mavi gökyüzünün altında aydınlık bir güne daha… (Tanju Aslışen, 2019b)

Örnek 3: Kurbağanın Rüyası

Geçmiş zamanların birinde sihirli bir şapkanın kaybolduğu haberi yayılmış. Şapka o kadar sihirliymiş ki başına kim takarsa tüm dilekleri bir anda gerçek olurmuş. Bunu duyan bir kurbağa şapkayı bulmaya karar vermiş.

İlk önce ördeğe sormuş. "Şey acaba yakınlarda bir şapka gördünüz mü?". "O kadar yaşlandım ki artık gözlerim hiçbir şeyi görmez oldu. Şapka falan da görmedim." diye cevap vermiş ördek.

Yürürken karşısına tilki çıkmış kurbağanın. Ona da sormuş aynı soruyu. "Böyle şeylere inanma kurbağa. Hem bulsan bile şapkayı senin ne gibi bir hayalin olabilir ki?" diye alay etmiş tilki kurbağayla.

Derken fok balığı ile karşılaşmış kurbağa ve "Buralarda bir şapkaya rastladınız mı acaba?" diye sormuş. "Şu anda sadece karnımı doyurmak için balık arıyorum. Şapka karın doyurmaz dostum" cevabını almış fok balığından da.

Aldığı olumsuz cevaplardan yılmadan yürürken bir yelkenli görmüş kurbağa ve suyun üzerindeki yapraklardan sıçraya sıçraya yelkenliye ulaşmış. Çaresizlik içinde sağına soluna bakmış birileri var

mı? diye. Ama kimseyi görememiş. Akşam olmaya ve yıldızlar gökyüzünde yerlerini almaya başlamış.

Bu sırada yelkenlinin içinde parlayan küçük bir şey görmüş. Hemen yanına gitmiş ama ne olduğunu anlayamamış ilk bakışta. İçini dışına çıkarmış, katlamış, evirmiş, çevirmiş… Gözlerini kısarak son bir hızla ve büyük bir cesaretle içine atlamış. Gözlerini açtığında sihirli şapkadan eser yokmuş ama gözlerini güneşten koruyan müthiş bir kasket varmış başında… (Tanju Aslışen, 2019c)

Örnek 4: Yepyeni Kanatlar

Uzak diyarların birinde geniş bir çam ormanının içinde yaşayan bir kumru ailesi varmış. Bebek kumru Kuku, hiç doymaz, sürekli anne-babasına "Karnım aç", "Karnım aç" der, her gün daha hızlı büyümenin hayalini kurarmış. Ormandaki en yüksek çam ağacının tepesinde yaşayan Kuku, anne-babasının getirdiği yiyeceklerle beslenir, ormanın derinliklerinden gelen sesleri dinleyerek günlerini geçirirmiş.

Bir gün yuvasında anne-babasını beklerken şiddetli bir rüzgâr esmeye başlamış. Öyle kuvvetliymiş ki çam ağacı yavaş yavaş aşağı doğru devrilmiş ve suyun içine düşmüş. Kuku ilk defa suyla tanışıyormuş. Minik kanatlarını çırparak başını suyun üstüne çıkarmaya çalışmış. Hava o kadar karanlıkmış ki korkudan yine suya dalmış. "Annem ve babam beni çok merak eder" diye geçirmiş içinden ve son bir gayretle yüzeye çıkmak için uğraşmış. Aynı anda iki taraftan gelen dalgalarla yükselen Kuku, gözlerini kapatmış, kanatlarının gövdesini sardığını, rengarenk tüyleriyle suyun üstünde yüzen bir ördek olduğunu düşünmüş. "Yepyeni hayallere kanat çırpma vakti" diye geçirmiş içinden… (Tanju Aslışen, 2020a)

Örnek 5: Kocaman Yürekler

Uzak diyarların birinde küçük mü küçük, sevimli mi sevimli bir köpek yaşarmış. Her sabah sağdan soldan yemek arar, karnını doyurmaya çalışır, büyük evlerin önünden yürürken sokakta yaşamanın zorluklarını geçirirmiş içinden. Bir gün küçük bir kulübenin önünde durmuş. Yemek bulamadığı için yürüyecek hali yokmuş. Tam bir adım atacağı sırada önce sağdaki sonra soldaki pencere aralanmış. Sağdaki pencereden küçük bir kız, soldaki pencereden küçük bir oğlan ona seslenmeye başlamışlar. Kızın yanında babası, oğlanın yanında da annesi varmış. Onlar da eve gelmesi için çağırıyorlarmış. Küçük köpek gözlerini kapatmış. "Bu bir rüya olabilir mi? Beni gerçekten çağırıyorlar mı acaba?" diye konuşmuş kendi kendine. Önce bir gözünü, sonra diğerini hafifçe aralamış. Bir de ne görsün. Küçücük bir kulübede yaşayan kocaman yürekli insanlar onu gerçekten çağırıyorlarmış. Var gücüyle koşarak yanlarına gitmiş ve hep sevgiyle yaşamışlar. (Tanju Aslışen, 2020b)

Örnek 6: Parçadan Bütüne

Uzak diyarların birinde ihtiyar bir terzi yaşar, her akşam, kalan kumaş parçalarını şekillendirerek hayal kurmaktan zevk alırmış. Yine böyle bir akşamda küçüklüğüne döndüğünü, yüksek bir dağın zirvesine koşarak çıkıp, kayarak eteklerine indiğini, sonra da buz gibi nehirde kulaç atıp, tahta köprüsünden karşıya geçerek, karanlık bir tünele girdiğini hayal etmiş. Etmiş de gerisi bir türlü gelmemiş...

Günler günleri kovalamış. Her akşam farklı kumaş parçalarıyla aynı hayali kurar, bir türlü devamını getiremez, kullandığı kumaşları da kıvırıp, katlar ve masanın kullanılmayan bir köşesinde biriktirirmiş.

İhtiyar terzinin çırağı bu olanlara anlam veremez, her akşam temizlik zamanı bu parçaları atmaya yeltenir ama ustasından da çekinirmiş.

Tam yedi akşam sonra yedi katlanmış kumaşın birleştiğini ve küçük parçalardan farklı bir bütün oluştuğunu hayal eden ihtiyar terzi, kumaşları birleştirmeye başlamış. Merakla sonucu görmek isteyen çırağı da onun yanındaymış.

Sonuç mu? Gökkuşağının yedi renginden oluşan (kırmızı, turuncu, sarı, yeşil, mavi, lacivert ve mor) ve tüm dilekleri gerçekleştiren sihirli bir şemsiye... Haydiii... Sen de bir dilek dile şimdi... (Tanju Aslışen, 2021a)

Örnek 7: Sevgi Yüklü Kanatlar

Kareler ülkesinin en yeni üyesi Kani, babasının getirdiği kitaptaki resimleri görünce çok şaşırmıştı. Demek ki kareden farklı şekiller de vardı. Yeniliği sevdiği için de denemeye karar verdi.

Önce iki köşesini birleştirip bir eşkenar üçgen oldu. Hemen sonra diğer iki köşesini de buluşturdu birbiriyle... Heyyy dik üçgen olmuştu... Ama bu şekli sevmedi, çok dik görünüyordu. Yeniden eşkenar üçgen şeklini aldı ve arkasını döndü...

Sağ ve sol köşelerini yukarı kaldırmayı denedi. Yine bir hatta iki üçgen şekli olmuştu ama adını bilemedi.

Bir hamleyle aşağıdaki köşeyi de gövdesiyle birleştirdi. Yanılmıyorsa ikiz kenar üçgen şeklini almıştı. En küçük üçgen ise değişiminin noktasıydı...

O anda bir ses duydu. Toparlandı, başını kaldırdı ve dinledi. "Sevgi yüklü kanatlarınla kareler ülkesine mutluluk dağıtacaksın" dedi aynı ses. Başlangıçta sadece bir kareydi belki ama bir resimli kitap onu ne de güzel değiştirmişti... (Tanju Aslışen, 2021b)

Örnek 8: Mutluluk Sembolü

Doğduğundan beri kendisi gibi annesi babası olmayan arkadaşlarıyla birlikte yaşayan Viki, günlerini onlarla oyun oynayarak geçirir, iki grup halinde oynadıkları oyunlarda çok eğlenirdi.

Körebe ve saklambaç oyunlarında ebe olur, gözlerini açıp arkadaşlarını bulunca havalara uçardı.

Bazen yaşadığı yere güler yüzlü insanlar gelir, arkadaşlarının birini hatta ikisini alır ve birlikte çok mutlu yaşayacakları evlerine götürürlerdi.

Viki, o zaman arkalarından bakıp üzülür, içine kapanır, bazen de ağlardı.

Bir gün bir kadın ve bir adam onu görmeye geldiler. Hatta bir kız, bir erkek çocuk da vardı yanlarında. Kadın çok güler yüzlü, adam da çok konuşkandı. Kadının güldüğünde parlayan gözleri kısılıyor, adamın konuşmalarıyla sanki ortalık aydınlanıyordu.

Çocuklar yavaşça Viki'nin elinden tutup ve "Bizimle birlikte gelmek, kocaman mutlu bir ailenin üyesi olmak ister misin?" diye sordular bir ağızdan... Öyle şaşırmış, öyle heyecanlanmıştı ki... Artık onun da bir koruyucu ailesi olacak ve bu taç, yaşadığı evin kapısına mutluluk sembolü olarak asılacaktı. (Tanju Aslışen, 2021c)

Örnek 9: Neye Benziyor?

Rüzgâr usulca aralamıştı odasındaki perdeyi...

Ayağa kalktı. Önce patili dostuyla birlikte oynadıkları oyuncaklarını toplayıp kutusuna yerleştirdi.

Arkasını döndü, masaya oturdu ve resim çizmeye başladı defterine.

Önce bir ağaç çizdi. Hatta babasının bir yılbaşında getirdiği yapma çam ağacına benzediğini bile geçirdi içinden... Ne güzel süslemişler ve ne çok eğlenmişlerdi o gece...

Sonra sayfanın arkasını çevirdi. Bir külah çizdi. Babasıyla parka gittiğinde aldıkları dondurmayı hatırladı birden...

Üç top dondurma yemiş, çok hızlı yediği için de ertesi gün boğazı şişmiş ve doktor amca tam iki gün yatak istirahati vermişti.

Yatakta sağdan sola, soldan sağa dönüp yatmayı hiç sevmemişti. Amaaa babasının getirdiği iki uçlu kalemle çizmeyi düşündüğü resimler onu mutlu etmeye yetmişti. Zaten çocukluğundan beri hayal kurmaya bayılırdı.

Sandalyesinde doğruldu. Önce bir kolunu sonra diğerini havaya kaldırdı, gerindi. Duvara yansıyan gölgesine baktı. Bir elini aşağıya doğru eğdi. Heeey acaba neye benziyor olabilirdi?

O an sanki zaman durdu ve kocaman kanatlarıyla bir turna kuşu belirdi önünde... "Şansı, bereketi, mutluluğu simgeler" demişti annesi... "Yeni doğan gün herkese şans getirsin" diye geçirdi içinden ve hayalindeki turna kuşunun kanadında uykuya daldı. (Tanju Aslışen, 2021d)

Örnek 10: Sevmek Güzel Şey…

Uzak diyarların birinde ihtiyar bir oduncu yaşar,

Her akşam evine girip,

Kapısını kilitler,

Sıcak bir kâse çorba içip,

Fotoğraf albümünün sayfalarında gezinirdi.

Annesini, babasını, kardeşini düşünür,

Çocukluğunda babasıyla yaptığı kanoyu hatırlar,

Kardeşinin kendi başına yaptığı tek kenarlı kanosuyla su üstünde kalma çabasını gülümseyerek anımsardı.

Sonra da küçük bir tahta parçasını oyarak şekillendirdiği kanoya ve

Üçgen bir bez parçasından iliştirdiği rüzgarlığa dokunur, yatağına geçerdi.

O akşam olduğu gibi…

Yatak örtüsünü açtı ve

Yatağına uzandı.

Sağ taraftaki yastığı iyice itti ve kolunu altına soktu

Sonra sol yana döndü ve yine yastığı itip kolunu altından geçiriverdi.

Gözlerini kapattığında, babasıyla yaptıkları kanonun sembolü vardı aklında…

"Sevmek güzel şey" dedi içinden ve gülümseyerek daldı derin bir uykuya… (Tanju Aslışen, 2022a)

Genel anlamda her gelişim alanına sağladığı katkılar göz önüne alındığında, özellikle okul öncesi eğitim programlarının içerisinde yer alabilecek bir yöntem olan storigaminin, ülkemizde hemen hemen hiç kullanılmaması dikkat çekici bir durumdur. Oysa ki hikâye okuma/anlatma sırasında yer verilebilecek olan bu yöntemin, çocukların ilgisini çekebileceği ve dikkat sürelerini arttırarak dinlemenin ve öğrenmenin daha keyifli ve heyecanlı bir süreç takip edebileceği düşünülmektedir. Okul öncesi dönem çocuklarının eğitimleriyle ilgilenen tüm meslek elemanları ve aileleri başta olmak üzere hikâye okumayı/anlatmayı seven ve profesyonel olarak uğraşan yetişkinlerin bu konu hakkında bilgilendirilmeleri, storigami yönteminin anlaşılması ve yaygınlaştırılması için önemli bir husustur. Ekolojik farkındalığın arttırılması için eski gazetelerin ya da okul öncesi dönemde sıklıkla uygulanan ip, patates, limon baskısı gibi sınıf etkinliklerinden elde edilen kağıtların kullanılabileceği storigami, kolay uygulaması ve erişilebilir materyaliyle avantajlı bir yöntem olarak düşünülmekte, etkinlik sonucunda elde edilen ürünlerin de aktif olarak kullanımı sağlanabilmektedir. Fiziksel öğrenme ortamında değişiklik yapılmasının gerekmediği, daha önce çalışılan, kat izleri belli olan yıpranmamış kağıtların tekrar tekrar kullanıldığı origami etkinlikleriyle anlatılan hikâyelerin, çocukların gelişimsel süreçlerini hızlandırabilecek bir güç oluşturacağına inanılmaktadır.

Unutulmamalıdır ki, öğrenme, keyifle gerçekleştirildiğinde daha kalıcı olmaktadır. Öğrenilen kâğıt katlama figürleriyle üretilen hikâyelerin anlatılması ve ilgiyle dinlenmesi, çalışmayı gerçekleştiren her iki taraf açısından da gelişimin bütüncül olarak desteklenmesine olanak tanıyacak ve keyifli bir öğrenme ortamının oluşturulmasına fırsat sağlayacaktır. Yetişkinler açısında da… Çocuklar açısından da…

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The Relationship among Intelligence Executive Functions Metacognition and Academic Success: A Review

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Abstract: Intelligence, executive functions and metacognition have a very important place in human life, and recently studies on these concepts have started to be revealed to a large extent. One of the areas where these concepts, which are important in every field, are most effective, is reflected in the studies as the realization of learning, that is, academic success. Demonstrating whether learning has taken place or not through academic success is an important concrete proof that has come from the past to the present. From this perspective, it is important to bring together studies in the literature that study these concepts together with academic achievement and to reveal their effects on learning. In this study, researches that were studied between 2006-2020 and that show the place of intelligence, executive functions and metacognition in academic success were compiled. Thus, it is aimed to provide a better understanding of the place these concepts have in academic success. In the research, the common aspects of intelligence, executive functions, metacognition and academic success were defined and their common aspects were revealed. Then, the studies in which these concepts were studied together were examined and the similarities and differences between the results of these studies were determined.

Keywords: intelligence, executive functions, metacognition, academic achievement

Introduction

Intelligence, executive functions, and metacognition have become among the topics studied frequently by researchers in recent years. Intelligence is defined as ‘‘the ability to think independently of events, achievementfully adapt to new situations, gather movements and attitudes around a certain idea or purpose, mostly perception, memory, association, imagination, judgment, reasoning, abstraction, generalization.’’ (Education Terms Dictionary, 1974, p.24). Gardner argues that the thinking and learning processes are related to the dominant intelligence, accordingly, the intelligence has an effect on the learning style and that an effective learning strategy can be developed in line with the dominant intelligence. Considering the importance of all of the tasks such as perception, memory, association, imagination, judgment, reasoning, abstraction, generalization and learning strategies in the definition of intelligence for academic achievement, it can be argued that there is a connection between intelligence and academic achievement.

Executive functions is a concept that emerged in the definition of the functioning of information and high-level cognitive functions in the brain. This concept includes skills such as flexibility, planning, repetition of behavior, organizing behavior and preventing reaction (Lezak, 1995). Executive functions include sub-areas of abstraction ability such as repetition, learning, conceptualization, and reasoning, creativity, problem solving, response inhibition, and cognitive flexibility (Lezak, 1995). It is possible to say that executive functions are important for academic achievement, based on these skills, especially the skills of repetition, learning and conceptualization, which are sub-areas of abstraction ability.

Metacognition is explained as follows in Flavell's definition: "Metacognition refers to the individual's cognitive processes and the results of these processes or the knowledge they have about them. If I am aware that learning operation A is more difficult than learning B; if i feel like i have to check it again before accepting that C is correct; if I feel that I need to work better with D because I have the possibility to forget; if I'm thinking of asking someone to find out if E is true, I'm using metacognitive strategies "(Flavell, 1976). Metacognitive abilities are the ability of the individual to perform his / her own mental activities while at the same time performing such activities as monitoring, observing and learning self-control. However, metacognition; It also brings along skills such as awareness during learning, making plans and developing strategies, monitoring the learning process, correcting mistakes, checking the usefulness of the strategies used, and changing learning methods and strategies with different methods and strategies when necessary (Özsoy, 2007). Considering the relationship between academic achievement and learning, it can be accepted that there is a relationship between metacognition and academic achievement.

In addition, when the definitions of intelligence, executive functions and metacognition are examined separately, the relationships between these three concepts stand out. For example; It will not be possible for an individual to have abstraction skills such as conceptualization, learning and repetition thanks to executive functions and to use these skills without the intelligence's perception, memorization and recall tasks. Again, without fulfilling these tasks of intelligence, the individual cannot perform actions such as being able to recognize the learning process thanks to his metacognitive skills, checking the accuracy of what he has learned and correcting his mistakes. At the same time, when we look at the skills of executive function and metacognition, there are similarities between the skills of these two concepts. For example; The cognitive flexibility skill, which is the executive function skill, is similar to the ability to realize the learning methods and strategies skill of metacognition, and the individual without cognitive flexibility will not be able to provide the action of changing the learning method and strategy. As stated before, these three concepts also enable the individual to have the tasks and skills that can ensure academic achievement. In studies conducted for this purpose, it concretely reveals the relationship of these concepts with academic achievement.

Considering the studies conducted abroad, it is seen that there are studies in which executive function functions and metacognition are studied together as well as separately. In addition, there are studies in which these three concepts are studied together with academic achievement. Looking at the studies conducted in the country, it is striking that the studies on these concepts are new and these concepts should be studied more domestically. It is seen that these three concepts are studied with academic achievement in studies conducted domestically, and it is seen that studies aimed at this purpose are also new. This article aimed to compile studies that address the concepts of intelligence, executive functions, and metacognition between the years 2006-2020 and show the place of these concepts in academic achievement. Thus, a better understanding of the relationship between these concepts and their place in academic achievement can be achieved. As a result, this article is intended to be a guide for such studies that need to be done domestically.

Method

The study is a rewiev. In this study, the researches that were studied between 2006 and 2020 and showing the place of intelligence, executive functions and metacognition in academic achievement were compiled. In this way, it is aimed to provide a better understanding of the place these concepts have in academic achievement. In the research, common aspects were revealed by making the definitions of intelligence, executive functions, metacognition and academic achievement. Later, studies in which these concepts were studied together were examined and the similarities and differences between the results of these studies were determined.

Results

In a study, the relationship between reading and arithmetic achievement with executive function skills such as inhibition, scrolling, updating and (non-verbal) reasoning was examined in children aged 9-12 years. In the study, it was found that updating and non-verbal reasoning are related to reading and arithmetic achievement (Van der Sluis at al., 2007).

Kalyoncu (2008) examined the relationship between the cognitive assessment system and executive functions with 198 private school students aged 10-11 years in his thesis. As a result, it was determined that planning, judgment and achievemention are related to executive functions.

In a study, a model that explains the effect of achievement goals on metacognition and study strategies, metacognition on study strategies, and study strategies on academic achievement was tested. The sample of the study consisted of 952 university students. As a result of the research, it was found that those with high effective self-regulation earned significantly higher test scores, had higher achievement goals, and significantly higher scores in metacognition and all study strategies (Vrugt & Oort, 2008).

Pennequin at al. (2010) investigated the effects of metacognitive education on the performance of adults in mathematical word problems. Besides, they also examined the relationships between metacognition and executive function. They divided thirty-two subjects over the age of 60 into an experimental and a control group and applied a five-week metacognitive training to the experimental group. As a result, they stated that this metacognitive training improved the two metacognitive components (knowledge and skills) and the mathematical problem-solving capacities of the participants. In addition, they found that the use of metacognitive skills by adults together with executive functions (updating, changing) and especially processing speed increased their achievement in solving mathematical word problems.

Best at al. (2011) examined age-related changes in complex executive function (EF) in a sample of 2036 people aged 5 to 17 years. In addition, the relationships between EF and academic achievement were examined. They found that EF performances increased until the age of at least 15 years, but this increase slowed down in later years. In addition, it was found that the relationship between EF and academic achievement varies with age and there is a general domain relationship between EF and academic achievement.

Dilci ve Babacan (2011) investigated the relationship between pre-service teachers' multiple intelligences and metacognitive reading strategies. The sample of the study consists of 609 university students studying in the Primary School Education Department. As a result of the research, it was determined that the dominant intelligence of the study group was the field of intrapersonal intelligence and they frequently used metacognitive reading strategies. While no significant relationship was found between metacognitive reading strategies and multiple intelligences, analytical reading strategies and multiple intelligences, it was found that there was a relationship between pragmatic reading strategies and mathematical intelligence.

Rabin (2011), investigated the predictive relationship between academic procrastination and executive functions with a sample of 243 university students aged 30 and under. As a result, it was found that executive function skills such as initiation, planning / organizing, blocking, self-monitoring, working memory, task tracking, and organizing materials in university students can predict academic procrastination.

Roebers at al., (2012) investigated the relationship between executive functions, metacognition and perceived self-efficacy in the context of early academic results. The 209 first grade children were initially evaluated

in terms of executive functions and academic self-concepts, and one year later, they looked at the children's achievement in executive function, academic self-concept, metacognitive monitoring and control, as well as mathematics and literacy. As a result, they found that executive functions and metacognition were significantly associated with academic academic achievement, and they found that metacognition had a more limited effect on academic achievement (literacy only) than executive functions (literacy and mathematics).

In a study, Kallay (2012) investigated the effect of learning strategies and metacognition on academic achievement. For this purpose, scales about learning strategies and metacognition were applied to 202 university students at the beginning of the semester. Then, the academic achievement of the scale results of these students at the end of the term was considered and the degree of predicting these results was examined. As a result of the research, it was determined that learning strategies and metacognition can predict academic achievement.

Karakelle (2012) examined the relationship of metacognitive awareness with problem-solving perception, need for thinking, and intelligence, and the effects of these three variables on metacognition. A sample of 108 university students was created in the study. As a result of the study, it was concluded that "individuals who are interested in complex cognitive activities and who think that they can solve their personal problems effectively increase their level of higher cognitive awareness as their intelligence levels decrease."

In another study, the relationships between metacognitive knowledge, metacognitive monitoring, and metacognitive control, which are three different dimensions of metacognition, general intelligence and textual learning performance were investigated. The sample of the study consisted of 91 primary school fifth grade students. As a result of the research, it was seen that there was no significant relationship between metacognitive knowledge and metacognitive control and general intelligence. In addition, it has been observed that there is a statistically significant relationship between metacognitive monitoring and general intelligence. The researchers evaluated the result of the research as ‘‘ regression analysis results; '(Saraç, Önder & Karakelle, 2014).

In another study, the deficiencies in the use of strategy transfer in young children and the relationships between executive function and metacognition were examined. The study also looked at the role of strategy use deficiencies along with cognitive capacity in increasing recall transfer, which is a memory strategy. As a result of the research, it was concluded that executive functions and metacognition support the increasing recall memory strategy (Clerc, Miller & Cosnefroy, 2014).

Blair at al. (2015) Using data from a prospective longitudinal sample of 1292 children and families predominantly in low-income and rural communities, they found that executive function in a 48-month-old child and a better quality relationship with the kindergarten teacher uniquely mitigated the impact of math skills in preschool. They concluded that preschool children with higher mathematical skills have higher executive function skills and have a more positive relationship with the kindergarten teacher.

In another study, the relationship between executive functions (inhibitory control and working memory) and metacognitive skills was investigated by applying correlation and regression analysis to the data collected from two groups of children. In addition, the contribution of executive functions and metacognitive skills to educational achievement was examined. As a result of the study, it was found that executive functions of 5-year-olds are more related to metacognitive skills than 7-year-olds, and metacognitive skills can predict educational achievement in both age groups (Bryce, Whitebread & Szűcs, 2015).

Harris (2015) investigated the role of metacognition in the montessori environment and its effects on academic achievement. In this study, 96 students who were educated in a Montessori environment and attended 3rd

and 8th grades were selected according to their educational experience. According to the results of the study, it was determined that the students' metacognitive awareness did not significantly predict their academic achievement including reading and mathematics.

Samul at al., (2016) In their research, a group of students monitored the effect of executive functions (EF) on their academic performance throughout their school life. For this, 6-9. At the end of the classes, the academic achievement of 322 adolescents with disadvantaged backgrounds attending an urban, privileged middle school / high school was measured by the evaluations of 21 teachers and 22 teacher assistants, and EF by the Executive Function Behavior Rating Inventory (BRIEF). As a result of the study, it was determined that the grades obtained from the scale predicted the academic achievement of adolescents. It was observed that the 4-year results obtained from the EF scale remained stable in the 4-year academic achievements. The researchers noted that the effects of EF on academic achievement were strong and robust enough to suggest that it be used to guide long-term academic interventions.

In another study, executive functions, visual-motor coordination, and physical fitness were investigated in predicting children's academic achievement when they came to the 2nd grade in a sample of 134 preschool children. As a result of the research, significant effects of academic achievement on executive functions and visual-motor coordination on subsequent academic achievement were found. It was found that the effect of physical fitness is also important, but indirectly affects academic achievement through executive functions (Oberer, Gashaj, & Roebers, 2018).

In a study, the relationship between creativity, intelligence and executive function (EF) was analyzed. For this, creativity, crystallized and fluent intelligence and EF tests were applied to a total of 209 people between the ages of 8-13. As a result, it has been determined that there is a relationship between these three concepts. It also shows that EF supports creativity in children and EF can predict creativity more strongly than fluid and crystallized intelligence (Krumm, Filippetti & Gutierrez, 2018).

Butterfuss & Kendeou (2018) conducted a literature review on the role of executive functions in reading comprehension. As a result of this screening, they stated that they found evidence supporting the relationship between changing functions and reading comprehension. However, as a result of several studies they found, they found that executive functions could support readers' ability to flexibly think phonological and semantic information while reading, switch between reading strategies, and actively participate in lower-level reading skills, such as monitoring one's understanding.

In a study, 87 people between the ages of 12-17 were conducted to examine the effect and relationship of executive functions on reading comprehension in adolescents. As a result, it was determined that working memory, which is an executive function skill, has an effect on understanding transition and this skill mediates transition understanding through text recall / inference. It was determined that the cognitive flexibility executive function skill was associated with text decoding, but not with transitional comprehension. It was concluded that preventive control from executive function skills has an effect on understanding transition through decoding and text recall / inference. (Ober et al., 2019).

Deotto at al., (2019) examined the role of metacognition in mathematics and spelling outcomes after pediatric stroke in patients, and performed standardized arithmetic, spelling and intelligence measurements on 32 pediatric stroke patients and 32 demographically equivalent healthy control groups. They collected administrative functionality data of these groups through a standardized parent questionnaire. As a result of the research, they found

that paralyzed participants performed significantly weaker in mathematics, spelling, metacognition and behavioral regulation compared to the control group. The researchers stated that, according to the data of the study, they found that metacognition was a solid predictor of academic deficiencies.

Marilus at al., (2020) In their studies, they identified the existing relationships between early metacognition and executive function and, in addition, argued that metacognition and executive function interventions could provide appropriate and important evidence for the development of improved perceptions of one's learning and agency. In their studies, they argued that by improving metacognitive and executive functions, young children's perceptions and agency of their learning could also be improved.

Demir and Baloğlu (2020) examined the relationship between the metacognitive skills of senior high school students and their academic procrastination in their study. The research is based on the analysis of scales applied to 492 high school seniors. As a result, they found that there is a low correlation in the same direction between metacognition and academic procrastination.

In her study, İvrendi (2020) examined the relationship between 5-6 year-old children's school readiness and executive functions. For this, he worked with 69 children aged 5-6 years. As a result of the research, it was determined that children's readiness levels have a significant relationship in the same direction with executive functions.

Discussion and Conclusion

When we look at the studies on the relationship between executive functions and academic achievement examined in this article, it was found that executive functions have a significant relationship, directly or indirectly, with academic achievement (Van Der Siluis at al., 0 2007; Kalyoncu, 2008; Best at al., 2011; Rabin, 2011; Blair at al., 2015; Samuel at al., 2016; Oberer at al., 2018; Butterfuss & Kendeou, 2018; Ober at al., 2019; İvrendi, 2020). These results are similar to the view that the executive functions supported in this article are related to academic achievement and academic achievement increases as the executive function skills increase.

When the studies that are the other research subject of this article and which show the place of metacognition in academic achievement are examined, it is seen that the research results show that metacognition is directly or indirectly related to academic achievement (Vrugt & Oort, 2008; Dilci & Babacan, 2011; Kallay, 2012; Doetto at al ., 2019; Demir and Baloğlu, 2020). The results of these studies and the view supported by this article that metacognition is an important skill for academic achievement are similar to each other. In another study, Harris (2015) found that metacognitive skills do not predict academic achievement. This result shows a different finding with the view supported by this article.

Another subject that is explored in the article is to examine the studies that examine the relationship between metacognition and executive functions and their effects on academic achievement. When the studies in the related literature are examined, it has been found that there is a relationship between executive functions and metacognition and that these are related to academic achievement and these have an effect on academic achievement (Pennequin at al., 2010; Roebers at al., 2012; Clerc, Miller & Cosnefroy, 2014; Bryce, Whitebread & Szűcs, 2015; Marilus at al., 2020; Saraç, Önder & Karakelle, 2014). These results support the view of this article that as metacognitive skills increase, executive function skills increase, and as these skills increase, academic achievement also increases.

Finally, in this article, a study in which intelligence was studied with metacognition was examined, and as a result, it was concluded that there was no significant relationship between metacognition and intelligence, and

even in the study, individuals who are interested in complex cognitive activities and who think that they do not have difficulty in solving their personal problems, the higher their intelligence levels, the higher their higher cognitive awareness levels (Karakelle , 2012). This result and the view that there is a relationship between intelligence and metacognition in this article is different from each other. In another study, the relationship between executive functions and intelligence was examined and it was found that as the intelligence level increased, the executive function skills increased (Krumm, Filippetti & Gutierrez, 2018). With this result, the view that there is a relationship between intelligence and executive functions advocated in this article supports each other.

Suggestions

Most of the research results compiled in the article show that intelligence, metacognition and executive functions are interrelated, and besides, these concepts are directly and indirectly related to academic achievement. Based on this;

1- Increasing studies that explain how intelligence, metacognition and executive functions are related to academic achievement will contribute positively to the literature.
2- Increasing the number of studies in which these concepts are handled together will contribute to the literature positively.
3- Conducting qualitative studies on metacognition and executive functions that affect academic achievement and including studies on how to improve these skills in students will contribute to the literature positively.

Resources

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