

INVESTIGATION OF THE EFFECT OF COURSE DESIGN PREPARED ACCORDING TO ASSURE MODEL PRINCIPLES ON STUDENTS

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ABSTRACT

This study, designed to determine the effect of the unit prepared in accordance with the ASSURE model on the critical thinking, technology literacy levels, academic achievement and participants' opinions about the unit, employs a single group pretest-posttest design among quasi-experimental designs. The study group of the research consists of 26 undergraduate students (all female, age range between 20-42) who continue their education at a private university in İstanbul. Quantitative and qualitative data collection techniques were used together in collecting data. "Critical Thinking Tendency Scale" and "Technology Literacy Scale" were applied to students before and after teaching to collect quantitative data. For the qualitative part, focus group interview and teacher journal was used. Descriptive statistics and Wilcoxon Signed Ranks Test was applied to analyze quantitative data. The findings of the research indicated that the unit prepared in accordance with the ASSURE model has a statistically significant positive effect on technology literacy of students whereas the unit does not have a positive effect on the critical thinking levels. In line with these results, it is recommended that teachers can design lessons suitable for the ASSURE model to increase the technology literacy of the students.

Keywords: ASSURE model, critical thinking, technology literacy, 21st century skills

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Introduction

Technology that is rapidly developing, produced, and consumed at the same speed today has made the individual and the society obliged to change. Unlike other periods, 21st century has come to the fore with the spread of technologies and has made the digital literacy as a fundamental skill for the people. In line with digital literacy, people are expected to demonstrate a variety of sophisticated skills. This demand also affects educational decisions and actions. Discussions has been made about the objectives, content, instructional methods, and evaluation, as well as changes in student profile within 21st century educational environments. As a result of these discussions, a set of complex skill named as 21st century skills are defined, and in the light of these skills countries revise and develop their education systems and educational action plans (Chu et al., 2017).

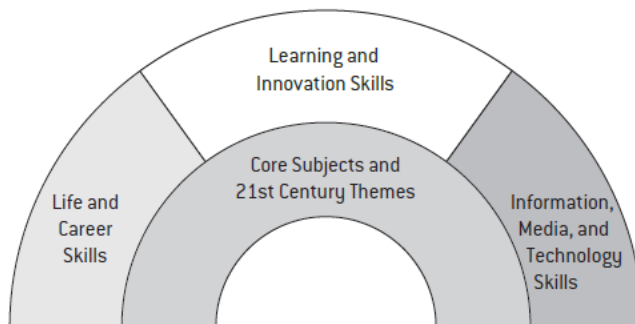


Figure 1. The 21st Century Knowledge- and - Skills Rainbow (Trilling & Fadel,2009).

21st century skills consist of three skill groups (please see fig.1). These are (1) learning and innovation skills, (2) information, media, and technology skills, (3) life and career skills. Each skill also contains different topics and sub-skills. Learning and innovation skills include critical thinking, problem solving, communication, collaboration, and creativity. Information, media, and technology skills; includes information and communication technologies literacy. Within this skill group digital literacy is emphasized as an important to access and use information (Trilling & Fadel, 2009; Chu et al., 2017).

Technology, as a human endeavor, is influenced by people's skills, cultural values, public policies, and environmental limitations. The students need to be aware of these effects and understand how these elements have a total effect on the development of technology. Many countries, including the countries which do not provide a separate course for technology education like Germany and Finland, draw attention to the fact that the lessons at the school provide skills to recognize and use technological concepts and systems. Technological systems are integrated into the lessons and teachers are provided with the necessary knowledge and skills related to technology with their interests and competencies (Yiğit, 2011). In this context, technology literacy is an important skill for both student and teacher.

Along with technology literacy, critical thinking skill is also considered as crucial within 21st century context. Critical thinking having multi-dimensional aspects is conceptualized by reflective and rational thinking with the aim of evaluating written and oral expression within logical rules (Ennis, 1993). According to this definition, thinking, especially reflective thinking, can be recognized as a prerequisite skill for critical thinking. It is emphasized that critical thinking is not a product but a process (Semerci, 1999). Critical thinking is important in public and personal lives of individuals. At this point, educational activities and the quality of education come into play. It is thought that effective instructional designs are needed to increase the quality of teaching.

Literature Review

Teaching is an attempt to construct a learning environment for students to gain a certain knowledge or skill. The aim of teaching is to support learning. Supporting teaching is to make learning efficient, effective, and interactive. Learning takes place, albeit by chance, and is not always a planned activity. The realization of learning as a planned activity is within the scope of teaching. Teaching needs to be designed in a good way to support learning (Merrill, 2013).

Instructional design is the planning of teaching-learning activities based on theoretical foundations of educational sciences with the aim of facilitating effective learning (Fer, 2015). The purpose of instructional design is creating efficient, effective, and interactive learning environments. Good instructional design increases the quality of learning. In an era where technology has accelerated and facilitated access to information, the need for effective instructional designs has increased. Several educational contents are available through online courses, educational games, and media. However, this content generally serves to the the transfer of knowledge and lacks interactional and motivational aspects. Therefore, the use of the media in teaching should be done in a purposeful and planned manner (Merrill, 2013).

Instructional design models provide a roadmap for designing instruction. There are many models used in instructional design. One of these models is the ASSURE model. The stages of the ASSURE model are shown in Figure 2.

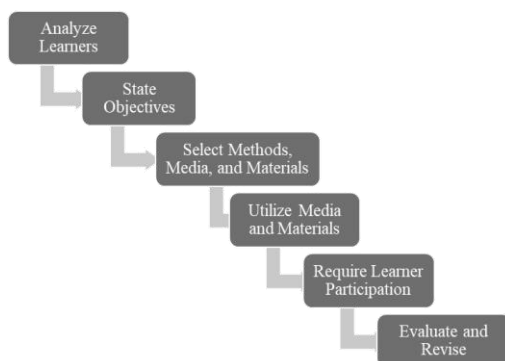


Figure 2. The ASSURE Model (Heinich, Molenda, Russell and Smaldino, 2002).

ASSURE model is created by Heinich et al. (2002). Educational technologies are at the center of this model. It consists of six stages: analysis of learners, setting goals, method, selection of media and materials, use of media and materials, ensuring learner participation, and evaluation and revision. In the analysis of the learners, the general characteristics, specific input behaviors and learning styles of the students are determined. Information processing habits, perception ability, perceptual preferences, and motivation factors are also other characteristics. It is recommended that the teaching objectives should be as detailed as possible. Well-established goals are also crucial for the overall instructional design. For the method, media and materials, alignment with the teaching objectives and students' learning styles should be taken into consideration. In the use of media and materials, there are four stages, (1) review the materials, (2) prepare the materials, (3) prepare the environment and students, and (4) start the learning experience. Active participation should be ensured through feedback and learning experiences at the model's learning engagement phase. The main purpose of the evaluation and revision phase is to increase the quality of teaching. Evaluation is not an end-product, it also serves as an initial stage for the later stages of teaching. At the evaluation and revision, achievement of objectives and transfer skills is evaluated, as well as the effectiveness of methods and media employed throughout the instruction (Heinich et al., 2002).

The ASSURE model focuses on engaging learners through the inclusion of media and technology in the teaching process. However, media and use of technology do not automatically guarantee a rich learning environment. It is even possible that the use of technology may complicate and distract the learning process. Technology use should be focused on learning by increasing the quality of teaching. A well-designed instruction includes problem-centered learning approaches, peer interaction and use of media (Merrill, 2013). These elements are included in the stages of the ASSURE model to ensure meaningful learning. ASSURE model is mostly employed in information and instructional technologies field, as well as ESL and mathematics lessons (Durak, 2009; Baran, 2010, Eren et al., 2010; Karakış, 2014; Karaduman et al., 2019). Few studies focused on instructional designs developed with ASSURE model in different disciplines. Therefore, in the current study we designed Children's Literature and Media course according to ASSURE model to contribute to the relevant literature.

In this vein, the purpose of the research is to determine the impact of Children's Literature and Media

course designed using ASSURE model on students' 21st century skills, technology literacy and academic achievement. The research questions are:

- Does the *Children's Literature and Media* course designed using ASSURE model have a statistically significant impact on critical thinking scores of undergraduate students?
- Does the *Children's Literature and Media* course designed using ASSURE model have a statistically significant impact on the technology literacy scores of undergraduate students?
- Does the *Children's Literature and Media* course designed using ASSURE model have a statistically significant impact on mid-term and final exam scores?
- What are the views of students about the course design?
- What are the views of teachers, who carried out the implementation, about the course design?

Method

This study, which aims to investigate the impact of the course designed in accordance with the ASSURE model on students' 21st century skills, critical thinking and technology literacy and academic achievement, is designed in a single group pre-test and post-test quasi-experimental design. It is a quantitative study, where the majority of the collected data is quantitative (Creswell, 2014). Single group pre-test-post-test design is a quasi-experimental design that the researcher collects data before and after the experimental intervention (Fraenkel & Wallen, 2012; Robson, 2015;).

Participants

The study group of the research consists of 26 undergraduate students who continue their education at a private university in Istanbul. The ages of 26 female students vary between 20-42. The teacher participated in the research is 29 years old, woman and has 7 years of teaching experience. The teacher gives importance to a democratic attitude in the learning environment. She is open to innovations and has knowledge of instructional design.

Table 1. Assure model course plan-Week1

Course title	Children's Literature and Media
Teacher's name	Mine KAZANCI GÜL
Class	Child Development Program (Evening Education)
Time	90dk.
Learner Analysis	
1.	Available: 32
2.	32 girls, 0 boys
3.	Age range: 20-42
4.	Cognitive, social, physical and emotional states are noted • There are no socially incompetent students. • Social skills of two students are weak. • Learning differences are few. A large part of the group needs practice in the learning process. • All students live in İstanbul. 4/5th of the group was born in the Marmara Region. 1/5th of the group was born in Eastern Anatolia Region. The group includes one person from the Mediterranean Region and one person from the Aegean Region.
5.	Average point from midterm exam: 64,53 Average point from Motivation Scale: 120 (positive attitude) • Learning styles • Visual - 14.28% • Auditory - 4.76% • Kinesthetic - 14.28% • Audiovisual - 9.52% • Visual and kinesthetic - 52.38% • Auditory and kinesthetic - 4.76%
Determining Learning Goals	
H - Child Development Program undergraduate students	
D -	• Knows literary genres in preschool children's literature. • Explains the characteristics of the genres. • Examines and compares examples of genres. • Knows and explains special topics in preschool children's literature. • Finds the genre of a given text.

K - Prepares concept map about literary genres individually at the end of the lesson.

D - Prepares the concept map related to literary genres at least 75% accurately.

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Assure model course plan-Week1 -part two

Method, Media and Material Selection

1. Direct Instruction
2. Computer, wireless internet access, Microsoft Powerpoint Program, projector, speaker, Youtube videos of literary genres, Bubbl.us website
3. Text samples, poetry books, story books, fairy tale books, riddle books, poetry anthologies

Using Media, Material and Method

1. The teacher reviews the presentation and sends it to the students a few days before the lesson. Controls the projector and speaker. Saves the video to be used on the computer.
2. The teacher connects the computer to the projector. Attaches the mic input of the speaker to the computer. It reflects the presentation.
3. The courses will take place in room B203. The students sit according to their preferences and where they can see the presentation. The teacher adjusts the lighting of the environment to be semi-bright during the presentation and fully bright after the presentation. It controls the ambient temperature before and during teaching. It ensures that the environment is at the average temperature level.
4. The teacher begins the process by asking students questions that they can relate to literary genres from everyday life. By writing down the answers given to the questions on the board, the course begins to form a chart with the literary genres to be learned. It narrows the scope through the questions to switch to literary genres in pre-school period.
5. Presents content interactively.

Engaging Learners

The teacher uses direct instruction. The course requires 15 minutes of introduction-engagement, 20 minutes of presentation, 10 minutes of video presentation, 20 minutes of text analysis, and 25 minutes of concept mapping. The teacher ensures the active participation of the students with pre-class questions and answers. She takes students' predictions on the subject before presenting the content. Identifies pre-knowledge by preparing a scheme. By doing the presentation interactively, she takes the opinions of the students during the presentation. She allows them to see a genre-specific sample by watching videos. By showing examples of fairy tales, stories, poetry, finger games and riddles, reading the samples of each genre allows students to listen and examine the samples. Then, by giving anonymous texts, she asks students to find the type of text and its characteristics. Students do group work in this process. Then each group presents their work. The teacher gives feedback to the work of the prepared groups.

Evaluate & Revise

1. The teacher asks the students to individually prepare the concept map of literary genres in preschool period. Students work on the Bubbl.us website to prepare concept maps.
 2. The teacher uses students' concept maps prepared with Bubbl.us and their views for the course evaluation. She enables the students to discuss the effectiveness of the media used. The students stated that the presentation and video had a positive effect on their learning processes.
 3. Teacher carries out individual, group and teacher evaluation at the end of the lesson. The students stated that the teaching motivation of the teacher positively affected the learning environment. They stated that examining the text and reviewing the examples facilitated their learning. In the individual and group performances, the students acknowledge their choice of groups for facilitating the learning process.
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ASSURE Model Implementation Process

For the implementation process of the ASSURE model, four topics were selected within the course named Child Literature and Media course within the Undergraduate Child Development Program. These topics are (1) literature types and special topics in preschool period, (2) story reading techniques in preschool period, (3) fairy-tale telling techniques in preschool period, (4) examples of quality books written for preschool children. In the first stage of the design, the analysis of the learners was made. Needs analysis calendar has been created. General information about the students and the implementing teacher was obtained. Data was collected about the students' age, learning styles and motivation level. Learning Styles form (Boydak, 2014) and Motivation Scale (Özerbaş, 2003) was used for data collection. The results of the needs analysis indicated that students' motivation levels are high. Students are between 20 and 42 years old and most of the students have visual and kinesthetic learning styles along with few peers with auditory learning style. All students live in İstanbul, and are originally from

different regions, most frequently from Marmara and Eastern Anatolia Regions. Apart from two students having weak social skills, all students are socially competent. Before the implementation of the design, the students were given a midterm exam and pre-tests were applied. In the light of the results of the needs analysis, the instructional design was developed, and lesson plans were prepared. Lesson plans were implemented according to the stages of ASSURE model. One sample lesson plan is presented in Table 1.

Data Collection Tools

Both qualitative and quantitative data were collected in the study. To collect quantitative data 'Critical Thinking Tendency Scale' and 'Technology Literacy Scale' were applied before and after implementation. Midterm and final exam scores were used as indicators of academic achievement. Data from focus group interview and teacher observation journal constitute the qualitative data.

Critical Thinking Tendency Scale: Critical Thinking Tendency Scale is a 5-point Likert scale (totally agree-totally disagree) consisting of 49 items and was developed by Semerci (2016). The scale has five positive sub-dimensions: flexibility, systematic, perseverance-patience and open-mindedness. The Cronbach alpha reliability coefficient for the test is found to be .93. The Cronbach alpha value of .93 indicates a highly reliable scale. Six items with low Cronbach alpha values were removed from the scale. Some sample questions from the scale are “ I collect enough data before I make a decision.”, “I can behave in a flexible way when needed.” and “I can understand other people’s feelings when discussing with them.”

Technology Literacy Scale: The Technology Literacy Scale is a 3-point Likert scale consisting of 33 items and was developed by Yiğit (2011). The scale has 5 sub-dimensions: Technological life skills, nature of technology, designed world, design, technology, and society. The Cronbach alpha reliability coefficient of .65 indicates a reliable scale. Two items with low Cronbach alpha values were removed from the scale.

Focus Group Interview: Focus group discussion is defined as a series of planned discussions with specific participants to reveal people's perceptions, ideas, and feelings about a specific topic (Yıldırım & Şimşek, 2016). The focus group interview protocol was developed by the researcher and an expert on teacher education. There are six questions in the interview protocol to learn about participants’ views on the instructional design, created and implemented according to ASSURE model. The focus group interview was held with nine participant students, who volunteered to take part in the interview process. The interview was repeated one week apart to carry out a member check. The interviews were audio-taped, and the researcher took field notes during the interviews.

Teacher Observation Journals: Observation is one of the most widely used data collection methods in qualitative research. Observation is defined as a method to describe the behavior that occurs in any environment or institution in detail (Yıldırım & Şimşek, 2016). Teacher observation journals were filled at the end of each lesson to report her observations. Teacher recorded her notes about the students' participation, their attention span, and their interaction during the activities.

Midterm and Final Exam Scores: In the research, students’ midterm and final exam scores were also used as a data source for students' academic achievement.

Data Analysis

In the analysis of quantitative data, the descriptive statistics and Wilcoxon signed-rank test was used. Wilcoxon signed rank test was chosen as a non-parametric test, because the number of the participants (N = 26) was less than 30. Qualitative data is analyzed through content analysis. Content analysis involves examining and classifying the open and latent messages of the transcribed data and making inferences (Bilgin, 2014).

Findings

Findings on Critical Thinking Scores

Findings on students’ critical thinking tendency scores from pre-test and post-test implementations are presented in Table 2.

Table 2. Critical Thinking Scores of Students

Posttest-Pretest	N	Mean Rank	Some of Ranks	Z	p
Negative Ranks	11	12. 23	134.50	-1.04	.30
Positive Ranks	15	14. 43	216. 50		
No Difference	0				

* Based on negative ranks

According to the results of the Wilcoxon Signed Rank test there is no statistically significant difference between pre-test and post-test critical thinking mean scores of the study group ($z = -1.04$, $p > 0.05$).

Findings on Technology Literacy Scores

Findings on students' critical technology literacy scores from pre-test and post-test implementations are presented in Table 3.

Table 3. Technology Literacy Scores of Students

Posttest-Pretest	N	Mean Rank	Sum of Ranks	Z	p
Negative Ranks	6	10.50	63.00	- 2.28	.02**
Positive Ranks	17	12.53	213,00		
No Difference	3				

* Based on negative ranks ** $p < .05$

According to the results of the Wilcoxon Signed Ranks test, a statistically significant difference was observed in the technology literacy pre-test and post-test scores of the students ($z = -2.28$, $p < .05$). The fact that the difference scores are in favor of positive ranks (post-test) indicates that ASSURE model has a significant effect on technology literacy of undergraduate students.

Findings on Academic Achievement

Findings on students' academic achievement from pre-test and post-test implementations are presented in Table 4.

Table 4. Academic Achievement of Students

Posttest-Pretest	N	Mean Rank	Sum of Ranks	Z	p
Negative Ranks	11	13.32	146.50	-.43	.66
Positive Ranks	14	12.75	178.50		
No Difference	1				

* Based on negative ranks

According to the results of the Wilcoxon Signed Rank test there is no statistically significant difference between pre-test and post-test academic achievement mean scores of the study group ($z = -.43$, $p > .05$).

Findings Regarding the Evaluation of the ASSURE Model According to the Students' Opinions

Students stated that the lessons designed and implemented in accordance with the ASSURE model have aspects that facilitate student-centered learning and use of technology. Although students indicate challenging aspects of the process they also reported about their improvement after the program (see Table 5).

Table 5. Codes, Categories, Themes and Sample Quotations on Student Views

Theme	Category	Code	Sample Quotation
Student Centered Teaching-Learning Process	Active participation	Individual studies Group works	"I feel like I have to participate. I can express myself this way, too. So, it becomes more active that way". "Because it is catchier when applying it and we can more or less predict how children will feel while applying it."
	Learning by doing	Attract attention Application	"I see it as socially strong. It is an efficient curriculum where we interact with each other".
	Communication skills	Interaction Contact	"I believe it is more memorable because we learn by living. There is an active participation process. With the visuals and videos, it is better"
Technology	Instructional technologies	Educational videos Voice recording Video recording	"I think there is a bit of a media-related problem in creating a story. For example, if we were teaching in a larger classroom or forming groups in the workshop, the sounds would be less confusing, and we could be more concentrated."
Process	Difficulties	Environment Personal	I was having trouble reading a story. I can say that I have overcome that fear."
Self-improvement	Self-awareness	Getting to know yourself Sense of accomplishment	

Findings Regarding the Evaluation of the ASSURE Model According to the Teacher's Opinion

The teacher stated that the lessons designed and implemented in accordance with the ASSURE model have positive features in terms of active participation, attention, curiosity, teaching technologies and self-awareness. However, she stated that there are some difficulties in the implementation of the ASSURE model. She stated that the difficulties stemmed from the characteristics of the educational environment and the students' lack of technology-oriented education (see Table 6).

Table 6. Codes, Categories, Themes and Sample Quotations on Teacher's Views

Theme	Category	Code	Sample Data
Teacher Friendly Design	Motivation	Attention Motivation	"Achieving active participation and attracting students' attention had a positive impact on my motivation."
	Attract attention	Arousing interest	"In this process, I see that everyone's interested in the lesson. Pure attention is a great thing to experience "
	Facilitation of learning	Discovery Facilitating learning	"An exploratory process that makes learning easier."
Technology	Instructional technologies	Educational videos Voice recording Video recording	"Technology helps students learn. Removing cell phones from our lives may not be realistic but using them for educational purposes can revolutionize educational environments."
Suggestions	Difficulties	Environment Personal	"Classes need to be improved in terms of technological equipment and acoustics. Sound absorbing systems can be installed. Larger classes or laboratories can be designed."
Supporting self-discovery	Self-awareness	Getting to know yourself Talent discovery	"Some of my students who recorded their voice said they were listening to their voices for the first time and I had students who realized their talents."

Discussion and Conclusion

This study was carried out to determine the impact of the course prepared in accordance with the ASSURE model on the critical thinking, technology literacy and academic achievement scores of students, as well as to explore teacher's and students' views about the course. Findings of the research indicated that the course prepared in accordance with the ASSURE model had a statistically significant positive effect on the technology literacy scores of the participant students. Eren et. al (2010), in their research on Information Technologies course, which was carried out with the material designed in accordance with the ASSURE model, found that the 6th grade students in the

experimental group had higher computer self-efficacy compared to the control group. This result coincides with the literature in terms of technology literacy.

The findings on critical thinking scores pointed out that the course prepared in accordance with the ASSURE model did not have a statistically significant effect on the critical thinking scores of students. The duration of the implementation being 4 weeks might be insufficient to develop the critical thinking of students. In a study conducted with undergraduate students, a course enriched with critical thinking instruction was evaluated throughout an academic term. According to the quantitative data of the research, it was determined that teaching based on critical thinking does not make any difference compared to traditional teaching, while this approach has positive effects over qualitative data. It is stated that longer-term education is needed to develop critical thinking (Yücel, 2008).

Researchers also found that the courses prepared in accordance with the ASSURE model does not have a positive impact on the academic achievement of students. This result may be due to many factors, such as prior knowledge, implementation process, and grade level variables (Huitt et al., 2009). Self-efficacy, motivational variables, the way they define their academic difficulties, psychological variables, and attributes to academic performance are other factors which have an impact on academic achievement (Wilson et al., 2002).

The students think that the course prepared in accordance with the ASSURE model is efficient, provides permanent learning, socially strong, facilitating learning and supporting their personal development. The ASSURE model's active involvement and emphasis on feedback may have led to this result (Heinich et al., 2002).

The teacher thinks that the course prepared in accordance with the ASSURE model is teacher-friendly and contributes in terms of instructional technologies and self-awareness of the teacher. The individual characteristics of the teacher and being open to innovations may have affected this result positively. Teacher's effective use of technology will also have positive consequences for students. For this, teachers need to learn the use of technology and use it in their lessons to create enriched learning experiences (Altun et al., 2011).

The students and the teacher stated that there were some difficulties in applying the ASSURE model. These difficulties may arise from minor problems about technical and physical equipment and students' lack of knowledge on use of technology. Internet access issues, differences in the perspective of the teacher and the students in terms of technology, inability to adapt to technology due to specific generation characteristics are listed among the problems that complicate the use of educational technologies (Miniawi & Brenjekjy, 2015).

Baran (2010), studied with 40 preservice teachers attending computer education and instructional technologies program. Preservice teachers designed lessons using ASSURE model with interactive whiteboard in the learning environment. Research findings indicated that ASSURE model helped pre-service teachers to progress step by step and systematically in their design, and the most difficult stage for the participants was the teaching method, media, and material selection stage of the model. In this study, it has been observed that ASSURE model has contributed to teachers and students, and the difficulty in implementing the model is due to the physical and technical inadequacies in the learning environment and lack of knowledge about technology. While the research results are similar with the current research in terms of gains, however they differ in difficulties they report. Similarity is thought to be related to the main features of the ASSURE model. The difference in reported difficulties can be attributed to the grade level, department, number of people and duration of implementation.

Aktaş (2015) examined the science teacher candidates' technology pedagogy development. In the year-long study, 43 prospective science teachers were informed about educational technologies. Then, 6 preservice teachers were selected with the maximum diversity sampling. Preservice teachers developed instructional designs using ASSURE model and presented these designs using micro teaching method. As a result of the research, it has been revealed that the use of ASSURE model facilitates preservice teachers to predict students' misconceptions and learning difficulties, and that lessons from experienced teachers and lessons prepared based on a specific instructional design model positively affect teacher candidates' technology pedagogy knowledge. In this study, the teacher stated that the use of the ASSURE model facilitates students' learning. Another common point is that in this study, the technology literacy levels of associate students have increased.

Sundayana et al. (2017) aimed to improve students' mathematical communication ability using ASSURE model and conducted an experimental study. As a result of the research, it has been observed that the teaching done in accordance with the ASSURE model is more effective than the courses with traditional teaching, in other words, the use of the ASSURE model has a positive effect on students' mathematical communication ability. In this study, there was no increase in the academic achievement levels of the students. Research results differ in this respect. It is thought that the differentiation arises from the fact that the studies are carried out at different educational levels.

In line with these results, teachers can design lessons using ASSURE model to increase the technology literacy of the students, and learning environments can be arranged to respond to the technical and technological equipment required for the implementation of the ASSURE model. The grade level of implementation and the sample size are the limitations of the study. For further studies, experimental designs with control groups are recommended.

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ASSURE MODELİ İLKELERİNE GÖRE HAZIRLANMIŞ DERS TASARIMININ ÖĞRENCİLER ÜZERİNDEKİ ETKİSİNİN İNCELENMESİ

Mine Kazancı GÜL, Sertel ALTUN, Defne YABAŞ

ÖZ

ASSURE modeline göre hazırlanan ünitenin eleştirel düşünme, teknoloji okuryazarlık düzeyleri, akademik başarı ve katılımcıların üniteye ilişkin görüşlerine etkisini belirlemek amacıyla tasarlanan bu çalışmada yarı deneysel desenlerden tek grup ön test son test kullanılmıştır. Araştırmanın çalışma grubunu İstanbul'da özel bir üniversitede eğitimine devam eden 26 lisans öğrencisi (tamamı kadın, yaş aralığı 20-42) oluşturmaktadır. Verilerin toplanmasında nicel ve nitel veri toplama teknikleri birlikte kullanılmıştır. Nicel verilerin toplanması için öğrencilere öğretim öncesinde ve sonrasında "Eleştirel Düşünme Eğilimi Ölçeği" ve "Teknoloji Okuryazarlığı Ölçeği" uygulanmıştır. Nitel kısım için odak grup görüşmesi ve öğretmen günlüğü kullanılmıştır. Nicel verilerin analizinde tanımlayıcı istatistikler ve Wilcoxon İşaretli Sıralar Testi uygulanmıştır. Araştırmanın bulguları, ASSURE modeline göre hazırlanan ünitenin öğrencilerin teknoloji okuryazarlığı üzerinde istatistiksel olarak anlamlı pozitif bir etkiye sahip olduğunu, ancak ünitenin eleştirel düşünme düzeyleri üzerinde bir etkisinin olmadığını göstermiştir. Bu sonuçlar doğrultusunda öğrencilerin teknoloji okuryazarlığını artırmak için öğretmenlerin ASSURE modeline uygun dersler tasarımları önerilmektedir.

Anahtar sözcükler: ASSURE modeli, eleştirel düşünme, teknoloji okur-yazarlığı, 21. yüzyıl becerileri