

# Grammar Teaching through Digital Stories: A Study on Developing a Module<sup>1</sup>

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## SUMMARY

The purpose of this study is to develop a module for teaching grammar through digital storytelling in the "Grammar Teaching" course of Turkish education undergraduate programs at universities. In this regard, observations on the use and implementation of digital storytelling in classes were made at the University of Houston in the United States. A draft module for grammar teaching through digital stories was developed through a literature review, class observations, regular meetings with the foreign consultant, and exchange of ideas. Under the guidance of the foreign consultant, the draft module form developed by the researcher was evaluated by three faculty members at Houston University's College of Education using a "module evaluation form". The experts evaluated the draft module in terms of its objectives, the suitability of the topics that make up the content of the module for the purpose of the module, and the module's activities in the learning-teaching process. This process ensured that the module's objectives could be realized, and these objectives were compatible with the learning outcomes along with the planning of the teaching environments in which the module will be implemented so that there would be adequate equipment, the assessments were adequate. In addition, the following component were developed including appropriate evaluation method for the learning outcomes in the module, evaluation of the advantages (strength) of the module, the limitations (weaknesses) of the module, and the adequacy of plan B prepared for possible disruptions during the implementation of the module. As a result of feedback received from experts, the "Grammar Teaching through Digital Stories" module has been revised and finalized.

**Keywords:** Grammar teaching, digital story, pre-service Turkish teachers, United States

## INTRODUCTION

Developing an education approach that keeps up with the times requires stakeholders involved in education to possess critical and creative thinking, questioning, decision-making, and problem-solving skills. The development of these skills is directly proportional to the development of language skills. Individuals who can effectively use language skills also possess systematic thinking skills. Those who possess this skill can critically think and select the most accurate information for themselves amidst the storm of information in today's world, question the accuracy of the information they reach, and structure the information in their minds to adapt to their lives. In this context, in order to reach educational goals, it is necessary to first develop individuals' language skills. Grammar, which is the set of rules that create meaning relationships between the various elements that make up a language, such as sound, shape, and sentence structure, and the structure and functioning order of the language, plays an important role in the acquisition and development of basic language skills, and helps to use the language correctly (Baş, 2014; Hengirmen, 2007). Considering the importance of grammar, which forms the basis for the development of language skills, it is crucial to determine a teaching style that contributes to healthy and planned teaching of grammar and encourages students to develop a positive attitude towards grammar.

In 2017, the "General Competencies for Teaching Profession" were reorganized and updated in the teacher training undergraduate programs in Turkey. The aim was to train teacher candidates to have sufficient knowledge and skills in their field as well as to be equipped with social, cultural, moral, and intellectual aspects and to have a developed personality. They were expected to be trained as ethical and cultural leaders who will actively contribute to the construction of a more humane and virtuous country and world (Council of Higher Education [YÖK], 2017). In this context, teacher candidates who graduate from these programs are expected to recognize universal, national, and local/regional cultures and their common and different aspects; to be role models in terms of cultural, ethical, and moral values and personality; to graduate as technology-literate and researcher teachers. Turkish education undergraduate program was also updated within the scope of this regulation, and the "Grammar Teaching" course, which was felt to be missing in previous programs, was added as a required field education course in the 7th semester of the program. In this course, the objectives are to explain the basic concepts related to grammar teaching; to understand the place and importance of grammar teaching in Turkish education undergraduate

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program; to understand the approaches, principles, methods, and techniques in grammar teaching; to understand the importance of grammar teaching in teaching language skills; and to plan grammar teaching using methods and techniques. In line with the objectives of the course, teacher candidates are expected to enrich their knowledge of the field and field education with methods and techniques to plan grammar teaching and make related implementations. The teacher training undergraduate programs were updated again in 2018, but the sections related to the Grammar Teaching course remained the same as in the 2017 program (YÖK; 2018).

In addition, the program aims to prepare teacher candidates to be technologically literate and research-oriented teachers. In the "Grammar Teaching" course, it is important to provide pre-service teachers with advanced knowledge and training in the field, as well as to introduce them to technological applications that will increase their technological skills. This is because in the so-called "knowledge age," individuals are expected to have 21st-century skills. Brown, Bryan, and Brown (2005) named these multi-skills that are compatible with technology as "21st-Century Literacy," including digital literacy, global literacy, technology literacy, visual literacy, and information literacy. Jakes (2006) categorized 21st-century skills as digital literacy, creative thinking, effective communication, and high productivity skills.

In order to support the objectives of the grammar teaching course, digital storytelling was chosen as a tool because of its potential to be utilized in different stages of language grammar instruction. Digital storytelling is a constantly evolving method that combines new technologies, purposes, and creative views and enhances students' critical thinking and media literacy skills (Ohler, 2006). "Digital storytelling combines the art of telling stories with a mixture of digital media, including text, pictures, recorded audio narration, music, and video" (Robin, 2016, p. 18). It can be said that digital storytelling is a method that can positively affect the development of teacher candidates' 21st-century skills by combining multimedia with storytelling, appealing to different senses, and enhancing creative thinking and communication skills. In this context, it is thought that technology-supported applications and digital storytelling methods can be utilized when making content arrangements for existing courses or creating content for new courses in the updated Turkish education undergraduate program.

According to research, digital storytelling has been identified as a highly effective method in education (Chen and Chuang, 2021; Çetin, 2021; Dogan, 2007; Özkaya, 2022; Robin, 2008; Robin and McNeil, 2012; Sadik, 2008; Tabieh et al., 2021; Uygun, 2022). In the relevant literature, there are also studies indicating that the digital storytelling method improves students' language skills (Baki and Fevzioğlu, 2017; Çirai-Sarıca and Kocak-Usluel, 2016; Girmen and Kaya, 2019; Girmen, Ozkanal and Dayan, 2019; Moradi and Chen, 2019; Munajah, Sumantri and Yufiarti, 2022; Nassim, 2018; Ong and Aryadous, 2023; Ozkaya, 2020; Ozkaya and Coskun, 2019; Roza and Rustam, 2023; Tanrikulu, 2020; Yang, Chen & Hung, 2020; Yilmaz and Ozden, 2022). Dogan (2022) also reports that students enjoy learning through digital stories. Despite the effectiveness of using digital storytelling for teaching and learning, a study focusing on developing a module (educational content) for teaching grammar using the digital storytelling method could not be found. In this respect, there seems to be a gap in the use of digital storytelling for grammar teaching in the field.

Creating a module that allows the integration of grammar teaching topics with real-life situations and technology is the rationale for this research, which focuses on the "Grammar Teaching" course in the updated Turkish education undergraduate program. It is believed that the module developed within the scope of the research will serve as a model for creating content for "Grammar Teaching" courses in Turkish education undergraduate programs of universities, and thus contribute to filling the gap in the field.

The aim of the research is to develop a module for teaching grammar through digital storytelling in the "Grammar Teaching" course of Turkish education undergraduate programs at universities. To achieve this goal, research has been conducted on the use and implementation of digital storytelling in classes at University of Houston in the United States. Based on the adaptability of this method to grammar teaching, a module is aimed to be created.

The research is aimed to answer the following questions:

1. What are the observations of the researcher regarding the use of digital storytelling in teacher education for pre-service teachers in the United States?
  - How is digital storytelling utilized at different stages of the course for pre-service teachers in the United States?
  - What are the physical characteristics of the learning environment in which digital storytelling is used in teacher education for pre-service teachers in the United States?
  - Which programs are used to implement digital storytelling in teacher education for pre-service teachers in the United States?

- Are different technological applications used to support the implementation of digital storytelling in teacher education for pre-service teachers in the United States?
2. How can digital stories be adapted for grammar teaching?
  3. How can the stages of grammar teaching through the digital stories module (aim, content, teaching and learning activities, learning outcomes, learning environments, assessment and evaluation activities) be created for the "Grammar Teaching" course?
  4. What are the expert opinions on the evaluation of grammar teaching through the digital stories module?

## **METHOD**

### **Research Model**

The model of the research is based on the qualitative research method of case study. Case study is a qualitative approach in which the researcher collects detailed and indepth information about a situation or situations through multiple sources of information such as observations, interviews, and documents (Creswell, 2015; Merriam, 2013; Seggie and Bayyurt, 2015). In the scope of the research, a needs analysis was conducted first; the current situation was described by examining the opinions of 4th grade Turkish teacher candidates about grammar teaching. Accordingly, it was determined that the most challenging topics in grammar teaching were "active/passive voice, ambiguities, and elements of a sentence," and priority was given to developing activity examples for teaching these topics in the module development process. During the module development process, classroom observations were conducted in the institution in the United States where the research was conducted, and the evaluation of the developed module by experts was provided with the module evaluation form at the end of the research.

### **Data Collection Tools**

The data in the research was collected using an "unstructured observation form" and a "module evaluation form" developed by the researcher.

*Unstructured Observation Form:* In the study, to determine how digital storytelling method is used in lessons, lesson observations were conducted in the institution where the research was conducted, and the observations were recorded on unstructured observation forms. Generally, observations vary in terms of the researcher's participation or non-participation, as well as whether they are field observations (structured or unstructured) or laboratory observations (structured or unstructured). In unstructured observation, since the aim is to describe a certain structure in detail from the inside, there is no observation tool consisting of standard questions in the hands of the researcher (Bailey, 1982; cited in Yıldırım and Şimşek, 2011). Since the observer can take notes in any way he/she wishes in this type of observation, unstructured observation form was preferred in the research. Because the institution where the research will be conducted is subject to an education system belonging to a different country, it was thought that it would not be healthy to create ready-made questions for speculating about the classroom culture. In this context, the behaviors of instructors and teacher candidates in the classroom were recorded with unstructured observation forms that could provide the researcher with the opportunity to observe freely.

*Module Evaluation Form:* In the scope of the research, a module evaluation form was developed by the researcher to determine the opinions of the science experts at the institution where the research was conducted on the "Grammar Teaching through Digital Stories" module. Initially prepared with eight questions, the module evaluation form was revised according to the opinions of one Turkish education expert, two education science experts, and one computer and instructional technology education expert, who suggested adding two more questions and changing some of the expressions in order to make it more understandable and unbiased. With the feedback of the experts, the final form of the module evaluation form was determined with ten questions.

### **Study Group**

The study group of the research consists of teacher candidates and faculty members working at the University of Houston in the state of Texas in the USA. As the researcher could not interfere with the working conditions of the host institution, it was decided to conduct the research with a "convenient sample group". Convenient sample group refers to selecting the sample or study group from more easily accessible units due to limitations such as time, workforce, etc. Accordingly, observations were made on the use of digital storytelling in classroom learning environments in classes deemed appropriate by the foreign consultant. Before the observation began, it was announced to the participants that the researcher would be observing classroom digital storytelling practices as part of a project, and that the data obtained from the observations would be used solely for scientific purposes. As part of the evaluation process of the developed module, the opinions of three experts in the field of digital storytelling were consulted. The experts, who work in the Department of Curriculum & Instruction at University of Houston, were selected under the guidance of the foreign consultant. Experts were informed that a module for

grammar teaching through digital stories was prepared within the scope of a project, and expert opinions were received with the "module evaluation form".

### **Data Collection Process**

The research was conducted between November, 2022 and February 2023 at the University of Houston in Texas, USA. Firstly, the foreign consultant Dr. Dogan and institution administrators were consulted, detailed information about the research was provided, and the institution's opinion was taken regarding research permission. The institution manager of the institution to be studied did not request permission from the host institution for the lesson observations and interviews to be conducted during the research. Therefore, it was decided by the foreign consultant and researcher to apply for ethical committee approval from the Muğla Sıtkı Koçman University for the research. During the process until the ethical committee approval was obtained, the researcher, under the guidance of the foreign consultant, conducted a literature review to establish the theoretical framework of the module and reviewed the online lecture recordings, syllabus, and course materials used in the "CUIN 7358 Educational Uses of Digital Storytelling" course given by the foreign consultant. Thus, in addition to face-to-face lesson observations during this process, online course recordings and course materials used by the foreign consultant were also analyzed in detail. After obtaining ethical committee approval, field observations began. The Muğla Sıtkı Koçman University Social and Human Sciences Research Ethics Committee granted permission on 13.12.2022 with document number 220188-175.

As part of the research, classroom observations were conducted at the institution where the study was conducted in order to determine how digital storytelling was used in classes. In this regard, the courses "CUIN 7358 Educational Uses of Digital Storytelling," "CUIN 3111 Educational Technology for Elementary Teachers," and "CUIN 7390 Instructional Design" were observed. Observations were recorded in unstructured observation forms based on the findings obtained through observation.

As a result of the investigations conducted, a structure was reached on how to utilize the digital storytelling method in language grammar teaching, and this structure was adapted to grammar teaching. In this direction, all stages of the language grammar teaching module with digital stories (objectives, content, learning-teaching activities, learning outcomes, learning environments, measurement-evaluation activities, and sample applications) were determined and compiled into a draft form. During the evaluation process of the developed module draft, the opinions of three experts in the field of digital storytelling were sought. The experts evaluated the module developed by the researcher and the foreign consultant using the "module evaluation form". After the expert opinions, the module was finalized.

The research has been conducted at the University of Houston in the United States, observing the use and implementation of digital storytelling in classes. Based on the observation, it is aimed to adapt this method to the "Grammar Teaching" course through the "Grammar Teaching through Digital Stories" module. It is thought that this module will serve as an example in creating content for "Grammar Teaching" courses in Turkish education undergraduate programs in universities and contribute to filling the gap in the field. In the "Grammar Teaching" course created based on the "Grammar Teaching through Digital Stories" module, pre-service Turkish teachers will learn how to use digital stories as a learning tool in grammar teaching, prepare digital stories for secondary school grammar topics, and integrate them into their grammar lesson plans using different educational materials.

### **FINDINGS**

This section presents the questions that were sought to be answered within the scope of the research, as well as the results obtained regarding these questions:

1. What are the observations of the researcher regarding the use of digital storytelling in teacher education for pre-service teachers in the United States?

The observations regarding the use of digital storytelling method in the education of pre-service teachers in the USA have been examined in the following dimensions within the scope of the research:

1.1. How is digital storytelling utilized at different stages of the course for pre-service teachers in the United States?

According to the observations made, it has been noted that the course "CUIN 7358 Educational Uses of Digital Storytelling" is entirely based on digital storytelling, and digital storytelling is utilized at every stage of the course. In this context, it has been observed that the course includes theoretical knowledge, research assignments, and discussions related to digital storytelling, and pre-service teachers develop their own digital stories and educational materials that support digital storytelling, which are then evaluated. In the course "CUIN 3111 Educational Technology for Elementary Teachers," a whole unit is dedicated to digital storytelling, and pre-service teachers experience an educational process where they learn about theoretical knowledge related to digital storytelling and design their own digital stories in practice. On the other hand, the course "CUIN 7390 Instructional Design" is observed to be a course that is not directly based on digital storytelling but relies on gamification methods that can

be transferred to the digital storytelling process. In this course, which is based on gamification, the development of educational designs and how to benefit from educational technologies are discussed in detail in a theoretical and practical manner, as in the other courses.

1.2. What are the physical characteristics of the learning environment in which digital storytelling is used in teacher education for pre-service teachers in the United States?

According to the observations made, it has been noted that the classrooms have adequate technological equipment. The courses "CUIN 7358 Educational Uses of Digital Storytelling" and "CUIN 7390 Instructional Design" are conducted at the Sugar Land campus of the University of Houston. The classrooms where these courses are taught are comfortable, spacious, and equipped with round group worktables, each of which has an LED monitor connected to the instructor's computer. Additionally, students can connect to the instructor's computer system and interact using free internet access. The classrooms also have an instructor's podium and computer in the middle of the room, in addition to student work desks. They are equipped with a projector, whiteboard, and smart board. The course "CUIN 3111 Educational Technology for Elementary Teachers" is conducted at the main campus of the University of Houston. The classroom where this course is taught also has sufficient technological equipment. The instructor's podium is located at the front of the class and is aligned with a smart board, a whiteboard, and a projector. Student desks are arranged in a regular classroom layout side by side. There is a computer for each student at their desk. As with other courses, students have access to free internet connectivity that allows them to interact with the teacher's computer system.

1.3. Which programs are used to implement digital storytelling in teacher education for pre-service teachers in the United States?

In the observed institution, WeVideo software is used for the implementation of digital storytelling method in teacher training. WeVideo is a comprehensive software that allows the creation of digital stories as well as various educational content. The premium version of WeVideo software is provided free of charge to students and instructors by the institution. WeVideo software has a recording feature for audio. However, Audacity program is recommended for students who prefer to record audio in a different program and transfer the audio recording to the digital story created in WeVideo software.

1.4. Are different technological applications used to support the implementation of digital storytelling in teacher education for pre-service teachers in the United States?

In the observed courses, it is emphasized that students should produce educational materials to support the digital stories they create. In this regard, Kahoot (quiz creation), Padlet (discussion), good and bad examples of digital story videos (discussion), and other web 2.0 applications are used based on educational technologies. Students are asked to produce educational materials that support their digital stories and submit them as a final project, in addition to their digital stories. Students are free to use any tool they want in preparing their digital story-supporting educational materials. If a student consults the instructor about the technological applications, tools, and equipment they can use to prepare their educational materials, the instructor provides recommendations on the technological applications, tools, and equipment the student can use. In the digital story preparation process, Microsoft Word and Google Documents are used for script writing, Microsoft PowerPoint (Storyboard Templates) is used for creating storyboards, Audacity is used for voiceover, and WeVideo applications are used for video creation. Voiceovers are preferably done through the WeVideo software.

2. How can digital stories be adapted for grammar teaching?

Based on the observations made, it is believed that digital stories can be utilized as a learning tool in different stages of language grammar instruction. Digital stories are a narrative tool created by adding elements such as sound, images, and effects to a text context. Besides being interesting in appealing to students' different senses within a text context, they also contribute to the permanence of information. In language grammar instruction, adopting text-based learning and inferring language structures from context is important. Digital stories, created in a text context and enriched with various elements such as sound, image, and effect, can be used as attractive and facilitating instructional tools for language grammar instruction, based on the inference method. In this context, it is considered that digital stories can be used in the attention-grabbing phase of the lesson to draw attention to language structures, in the instructional phase to explain the inferred language structures, and in the evaluation and assessment phase of the lesson to determine how much of the language structures have been acquired. When developing the "Grammar Teaching through Digital Stories Module", three instructional implementations were developed to serve as examples for how pre-service teachers can use digital stories as a learning tool in the attention-grabbing, instructional, and assessment phases of grammar teaching.

3. How can the stages of the grammar teaching through digital stories module (aim, content, teaching and learning activities, learning outcomes, learning environments, assessment and evaluation activities) be created for the "Grammar Teaching" course?

As a result of literature review, classroom observations, weekly meetings with the foreign consultant, and exchange of ideas conducted within the scope of the research, a draft module on “Grammar Teaching through Digital Stories” has been developed. The content of the draft module includes its purpose, content, learning-teaching activities, learning outcomes, learning environments, plan B, evaluation, and assessment methods.

#### 4. What are the expert opinions on the evaluation of grammar teaching through the digital stories module?

According to the evaluation form prepared for the module by the researchers, the draft module prepared for teaching grammar through digital stories was evaluated by three faculty members from College of Education at the University of Houston.

The experts were asked to evaluate the module in terms of its objectives, the suitability of the module's content for achieving its purpose, the activities involved in the learning-teaching process, the ability of the module to achieve its objectives, the compatibility of the module's objectives with the learning outcomes, the adequacy of the planned teaching environments and assessment methods, the strengths and weaknesses of the module, and the adequacy of plan B in case of disruptions during implementation.

Based on the examination of expert opinions, it has been determined that experts have the following opinions about the draft module:

*The objectives of the module are quite clear and coherent across modules.*

*The topics are suitable, especially because they go from general to specific.*

*The activities seem appropriate and effective for this module.*

*The objectives and learning outcomes are clearly aligned.*

*The teaching environments is well-planned, as long as the university provides the technology classroom. The plan is well-thought of from start to finish, including where instruction will take place, how many students could be a part of the module and what software needs to be downloaded for audio editing.*

Their opinions' about the advantages (strength) of the module as follows:

*The module is well-planned and structured. It includes all the necessary steps the instructor will take to successfully teach this module. The modules are comprehensive, covering three main contents, i.e., grammar teaching, digital storytelling, and grammar teaching through digital storytelling. The module's content is appropriate and it will give students a lot of opportunities to learn about digital storytelling and think about their future teaching practice through creative lenses. They will learn about the tools available for digital storytelling and they will have time to practice using some of these tools before they create their own project.*

Their opinions' about the limitations (weaknesses) of the module as follows:

*Rather than spending the first 2 weeks focusing on grammar only, the grammar content could have been embedded in the units about digital storytelling.*

They found the assessment and evaluation methods are appropriate, but they recommended include self-assessment and/or peer-assessment in addition to instructor's assessment. They also recommended splitting the percentages in a more even way.

They found the adequacy of plan B prepared for possible disruptions during the implementation of the module is sufficient. One of the experts recommended that even if the course is offered online, there still can be group assignment as final project because students can be assigned to work in small groups online.

In line with the opinions of the evaluators, the self-assessment and peer evaluation form were added to the module as assessment and evaluation tools. After pre-service teachers create draft version of their digital stories and educational materials in a lesson plan as a hands-on project, they will present them in the class and their projects will be evaluated by peer-assessment forms in classroom environment. The pre-service teachers will give each other feedback, and based on feedback they will revise their projects. After revision, they will present their final digital story project and grammar lesson plans through digital stories and their projects will be evaluated by instructor assessment and self-assessment forms in the classroom environment. In this situation, assesment percentages of the “Grammar Teaching” course based on “Grammar Teaching through Digital Stories” module as follows: Midterm exam 30%, final projects 70% total (digital story project 30%, preparing a grammar lesson plan through digital stories 30%, self-assessment form 5%, peer-assessment form 5%), total 100%.

According to opinions of the evaluators, rather than spending the first 2 weeks focusing on grammar only, the grammar content could have been embedded in the units about digital storytelling. In *Module 1 Introduction to Grammar Teaching* will be focused on the importance of grammar teaching in the education of language skills, basis concepts related to grammar teaching, evaluation and assessment tools of grammar teaching and benefits of

using technology in grammar teaching. In *Module I*, the instructor will use question and answer, discussion, instruction methods as instructional methods. Also, in line with the recommendations of the evaluators', the instructor will create digital stories and use them as learning tools to teach the topics of *Module I*. Thus, pre-service teachers' meet the digital story by processing the grammar teaching topics in *Module I* through digital stories. Teaching through digital stories in *Module I* may attract students' attention. In *Module II Introduction to Digital Storytelling*, the instructor will move on to digital story-related topics and the digital story preparation process. Thus, the instructor will create unity between *Module I* and *Module II*.

The evaluators found the adequacy of plan B prepared for possible disruptions during the implementation of the module is sufficient. But one of the experts recommended that even if the course is offered online, there still can be group assignment as final digital story project because students can be assigned to work in small groups online. In line with the recommendation of the evaluator, the preparing individual digital story assignment is changed to group assignment as in face to face education.

The final version of the module has been developed based on the expert opinions and the necessary revisions. The "Grammar Teaching through Digital Stories" module developed within the scope of the research is presented in Appendix-1.

## CONCLUSION AND DISCUSSION

Digital stories are short stories created or shared electronically, containing multimedia elements such as text, sound, interactive features, animations, etc. With the development of technology, digital stories have become popular and have been used in different levels of education and for different age groups, such as preschool (Shemy, 2020; Ture-Kose and Bartan, 2021), primary school (Cirali-Sarica and Kocak-Usluel, 2016; Dayan and Girmen, 2018), middle school (Baki and Fevzioglu, 2017; Ozkaya and Coskun, 2019), high school (Chen and Chuang, 2021; Sudarmaji, Mulyana, and Karsiyah, 2020), higher education (Cetin, 2021; Duman and Göcen, 2015), and adult education (Butler, 2007; Dogan and Robin, 2008; Panchenko, 2021).

Digital stories are learning tools that capture students' attention, facilitate learning, enhance creativity and interaction, make information recall easier, and cater to different learning styles. They increase students' creativity and encourage them to create their own stories. They enhance student interaction and promote active participation in the classroom. They make it easier for students to remember and assimilate learned information. Digital stories can be presented in ways that cater to different learning styles, providing students with a personalized learning experience. Teachers can use digital stories in their lessons to engage students, enhance their skills, and explore their creative potential. Many studies in the literature have emphasized the positive impact of digital story use in education on the learning process (Adara et al., 2022; Alismail, 2015; Dogan, 2016; Huang, 2023; Hung, Hwang, and Huang, 2012; Tabieh et al., 2021; Yilmaz and Sigirtmac, 2023).

Considering the qualities of digital stories mentioned above, it is important for teacher training institutions such as education faculties to use up-to-date methods, tools, and resources in the content of their courses, and introduce these methods, tools, and resources to teacher candidates. This will enable them to effectively use technology in their classrooms and create an effective learning environment. Creating a module that integrates digital stories with grammar teaching in the updated Turkish Language Teaching Undergraduate Program will provide an opportunity to relate grammar concepts to real-life situations and integrate them with technology, which forms the rationale of this research.

In this line, the purpose of this study is to develop a module for grammar teaching through digital stories in Turkish education undergraduate programs. In this regard, observations on the use and implementation of digital storytelling in classes were made at the University of Houston in the United States. Based on these observations, it was concluded that digital stories could be used as a learning tool in various stages of grammar teaching. A draft module for grammar teaching through digital stories was developed through a literature review, class observations, regular meetings with the foreign consultant, and exchange of ideas. "Grammar Teaching through Digital Stories" module has three sub-modules called *Module I Introduction to Grammar Teaching*, *Module II Introduction to Digital Storytelling* and *Module III Grammar Teaching through Digital Stories*. In *Module I Introduction to Grammar Teaching* is focused on the importance of grammar teaching in the education of language skills, basic concepts related to grammar teaching, evaluation and assessment tools of grammar teaching and benefits of using technology in grammar teaching. In *Module II Introduction to Digital Storytelling* is focused on the definition and history of digital storytelling, the educational uses and applications of digital storytelling, the process of creating a digital story, the review of digital story software (WeVideo), and copyright-free image websites. In *Module III Grammar Teaching through Digital Stories* is focused on the grammar teaching implementations through digital stories, the review of web 2.0 tools and the other tools to prepare the supporting copyright-free educational materials, evaluation and assessment of digital stories and educational materials.

Under the guidance of the foreign consultant, the draft module form developed by the researcher was evaluated by three faculty members at Houston University's Faculty of Education using a "module evaluation form". The experts

evaluated the draft module in terms of its objectives, the suitability of the topics that make up the content of the module for the purpose of the module, the module's activities in the learning-teaching process, the ensuring that the module's objectives can be reached, the compatibility of the objectives of the module with the learning outcomes, the planning of the teaching environments in which the module will be implemented to have adequate equipment, the adequacy of the assessment and evaluation methods planned for the learning outcomes in the module, the advantages (strength) of the module, the limitations (weaknesses) of the module and the adequacy of plan B prepared for possible disruptions during the implementation of the module.

The experts found the module strong in terms of its objectives, content, learning outcomes, learning activities, learning environment and technological infrastructure, as well as its plan B. The experts suggested adding self-assessment and peer assessment forms to the assessment and evaluation activities. In line with the opinions of the evaluators, the self-assessment and peer assessment form were added to the module as assessment and evaluation tools. After pre-service teachers create draft version of their digital stories and educational materials in a lesson plan as a hands-on project, they will present them in the class and their projects will be evaluated by peer-assessment forms in classroom environment. The pre-service teachers will give each other feedback, and based on feedback they will revise their projects. After revision, they will present their final digital story project and grammar lesson plans through digital stories and their projects will be evaluated by instructor assessment and self-assessment forms in the classroom environment.

According to the opinions of the evaluators, in *Module I*, rather than spending the first 2 weeks focusing on grammar only, the grammar content could have been embedded in the units about digital storytelling. In line with the recommendations of the evaluators', the instructor will create digital stories and use them as learning tools to teach the topics of *Module I*. Thus, pre-service teachers meet the digital story by processing the grammar teaching topics in *Module I* through digital stories. Teaching through digital stories in *Module I* may attract students' attention. In *Module II*, the instructor will move on to digital story-related topics and the digital story preparation process. Thus, the instructor will create unity between *Module I* and *Module II*.

The evaluators found the adequacy of plan B prepared for possible disruptions during the implementation of the module is sufficient. However, one of the experts recommended that even if the course is offered online, there still can be group assignments as final digital story projects because students can be assigned to work in small groups online. In line with the recommendations of the evaluator, the individual digital story assignment is changed to group assignment as in face-to-face education.

As a result of feedback received from experts, the "Grammar Teaching through Digital Stories" module has been revised and finalized. It is believed that this module will serve as an example in creating content for "Grammar Teaching" courses in Turkish education undergraduate programs in universities and contribute to filling the gap in the field. In the "Grammar Teaching" course created based on the " Grammar Teaching through Digital Stories" module, Turkish teacher candidates will learn how to use digital stories as a learning tool in grammar instruction, prepare digital stories for grammar topics, and integrate them into their grammar lesson plans using different educational materials. Digital stories are effective tools that allow technology to be integrated into education in terms of containing text and multimedia elements and being produced and shared in digital environments. With the "Grammar Teaching through Digital Stories " module, pre-service teachers will create their own digital stories and develop different educational tools (web 2.0, educational games, etc.) to support these stories and integrate them into their grammar teaching plans. It is believed that pre-service teachers will be able to plan grammar teaching using technological methods and tools and become equipped to use technology effectively in grammar teaching.

Based on the development of the "Grammar Teaching with Digital Stories" module for the "Grammar Teaching" course in the Turkish education undergraduate program, it is recommended to plan educational activities by blending contemporary learning tools and technology and lessons in creating content for other courses in teacher education. Pre-service teachers should be introduced to these methods, techniques, and tools to effectively use these methods, techniques and tools in their own classrooms when they become teachers.

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**Appendix 1.** “Grammar Teaching through Digital Stories” Module

<b>Course Name:</b> Grammar Teaching		<b>Program:</b> Undergraduate Program in Turkish Education	
<b>Teaching Methods:</b> Question and answer, discussion, instruction, demonstration-performance, hands-on project, digital storytelling.			
<b>Course Objectives:</b> The aims of this course are, 1. To explain the place and importance of grammar teaching in Turkish language teaching curriculum, 2. To learn approaches, principles, methods, evaluation and assessment tools in grammar teaching, 3. To learn educational uses of digital storytelling, 4. To use digital stories in grammar teaching, 5. To plan grammar teaching by using technological methods and materials.			
Course Content	Weeks	Applications/Hands-on Focus	Research Focus
<b>Module I</b> <b>Introduction to Grammar Teaching</b>	<b>1. Week</b>	Grammar teaching in Turkish language teaching curriculum, Grammar teaching approaches	<ul style="list-style-type: none"> <li>• The importance of grammar teaching in the education of language skills</li> <li>• Basis concepts related to grammar teaching</li> <li>• Evaluation and assessment tools of grammar teaching</li> <li>• Benefits of using technology in grammar teaching</li> </ul>
	<b>2. Week</b>	Principles, methods, evaluation and assessment tools in grammar teaching	
	<b>3. Week</b>	Use of technology in grammar teaching	
<b>Module II</b> <b>Introduction to Digital Storytelling</b>	<b>4. Week</b>	Definition of digital story, types of digital story	<ul style="list-style-type: none"> <li>• Definition and history of Digital Storytelling</li> <li>• Educational Uses and Applications of Digital Storytelling</li> <li>• The process of creating a digital story</li> <li>• Review of Digital Story Software (WeVideo)</li> <li>• Review of Copyright Free Image Websites</li> </ul>
	<b>5. Week</b>	Elements of digital story	
	<b>6. Week</b>	Six steps of creating digital stories	
	<b>7. Week</b>	Software to use in preparing digital stories, Copyright Free Image Websites	
	<b>8. Week</b>	Midterm exam	
<b>Module III</b> <b>Grammar Teaching through Digital Stories</b>	<b>9. Week</b>	Uses of digital stories as a learning tool in grammar teaching (Sample Implementations) (Attention-grabbing phase on lesson- Active-Passive Verbs)	<ul style="list-style-type: none"> <li>• Grammar teaching implementations through digital stories</li> <li>• Review of Web 2.0 tools and the other tools to prepare the Supporting Educational Materials</li> <li>• Assessment and Evaluation of Digital Stories and Educational Materials</li> </ul>
	<b>10. Week</b>	Uses of digital stories as a learning tool in grammar teaching (Sample Implementations) (Teaching phase on lesson- Ambiguities)	
	<b>11. Week</b>	Uses of digital stories as a learning tool in grammar teaching (Sample Implementations) (Assessment and evaluation phase on lesson- Elements of a Sentence)	
	<b>12. Week</b>	Preparing educational materials to support grammar teaching through	

		digital stories (games, worksheets, web 2.0 tools)	
	<b>13. Week</b>	Providing feedback of pre-service teachers' draft digital stories and educational materials (Peer-assessment)	
	<b>14. Week</b>	Incorporating feedback and revising the digital stories and educational materials	
	<b>15. Week</b>	Assessment and evaluation of pre-service teachers' final digital stories and educational materials (Instructor assessment and self-assessment)	
<b>Anticipated Learning Outcomes:</b> At the end of the course pre-service teacher;			
1- He/She explains the place and importance of grammar teaching in Turkish language teaching curriculum.			
2- He/She learns approaches, principles, methods and techniques, evaluation and assessment tools in grammar teaching.			
3- He/She learns educational uses of digital storytelling.			
4- He/She uses digital stories in grammar teaching.			
5- He/She plans grammar teaching by using technological methods and materials.			
<b>Assessment Method(s):</b>			
<b>Midterm Exam:</b> 30%			
<b>Final:</b> Digital Story Project: 30%,			
Preparing a Grammar Lesson Plan through Digital Stories: 30%,			
Self-assessment form 5%,			
Peer-assessment form 5%			
<b>Textbook:</b> There is no required textbook. The recommended resources related to each subject will be shared with pre-service teachers every week on the lesson management system.			

### Instructional Methods and Strategies

"Grammar Teaching through Digital Stories" module has three sub-modules called *Module I Introduction to Grammar Teaching*, *Module II Introduction to Digital Storytelling* and *Module III Grammar Teaching through Digital Stories*.

In *Module I Introduction to Grammar Teaching* will be focused on the importance of grammar teaching in the education of language skills, basis concepts related to grammar teaching, evaluation and assessment tools of grammar teaching and benefits of using technology in grammar teaching. The subjects covered for this purpose are the grammar teaching in Turkish language teaching curriculum; the grammar teaching approaches; principles, methods, evaluation and assessment tools in grammar teaching; and the use of technology in grammar teaching. In *Module I*, the instructor will use question and answer, instruction, discussion methods as instructional methods. Also, the instructor will create digital stories and use them as learning tools to teach the topics of *Module I*. Thus, pre-service teachers' meet the digital story by processing the grammar teaching topics in *Module I* through digital stories. It is considered that teaching through digital stories in *Module I* attract pre-service teachers' attention.

In *Module II*, the instructor will move on to digital story-related topics and the digital story preparation process. Thus, the instructor will create unity between *Module I* and *Module II*. The recommended resources related to each subject will be shared with pre-service teachers every week on the lesson management system. In *Module II Introduction to Digital Storytelling* will be focused on the definition and history of digital storytelling, the educational uses and applications of digital storytelling, the process of creating a digital story, the review of digital story software (WeVideo) and copyright free image websites. The subjects covered for this purpose are the definition of digital story, types of digital story; the elements of digital story; the six steps of creating digital stories; the software to use in preparing digital stories and the copyright free image websites. In *Module II*, the instructor will use question and answer, discussion, instruction and demonstration-performance methods as instructional

methods. The recommended resources related to each subject will be shared with pre-service teachers every week on the lesson management system.

In *Module III Grammar Teaching through Digital Stories* will be focused on the grammar teaching implementations through digital stories, the review of web 2.0 tools and the other tools to prepare the supporting educational materials, assessment and evaluation of digital stories and educational materials. The subjects covered for this purpose are the uses of digital stories as a learning tool in grammar teaching (sample implementations); the preparing educational materials to support grammar teaching through digital stories (games, worksheets, web 2.0 tools and the assessment and evaluation of preservice teachers' digital stories and educational materials. In *Module III*, the instructor will use hands-on project, digital storytelling, question and answer, discussion methods as instructional methods. The recommended resources related to preparing educational materials to support digital story will be shared with pre-service teachers on related lesson week on the lesson management system. The instructor will perform sample implementations how pre-service teachers use digital stories as a learning tool on grammar teaching and preparing educational materials to support the digital stories. For this purpose, the instructor will perform to use digital stories on different phases on the lesson (attention-grabbing phase, teaching phase, assessment and evaluation phase). After the sample implementations, pre-service teachers will present their digital stories and educational materials in a lesson plan as a hands-on project on the class and their projects will be evaluated in classroom environment.

### **Evaluation and Assessments Methods**

Grades for this course will be based on an 100-point system as described below:

*Midterm Exam (30%)*: There will be a midterm exam to assess and to evaluate the theoretical knowledge of the pre-service teachers about the contents of *Module I Introduction to Grammar Teaching* and *Module II Introduction to Digital Storytelling*. The midterm exam will constitute thirty percent of the grade.

*Final (Digital Story Project 30%, Preparing a Grammar Teaching Plan Through Digital Stories %30, Self-assessment form 5%, Peer-assessment form 5%)*: There is no final exam in this course. Instead of final exam, there will be two hands-on final projects. By this hands-on projects, preservice teachers' performances will be evaluated. In *Module III Grammar Teaching through Digital Stories*, the instructor will perform sample implementations on how pre-service teachers can use digital stories as a learning tool on grammar teaching and preparing educational materials to support the digital stories. After the sample implementations, pre-service teachers will present draft version of their digital stories and educational materials in a lesson plan as a hands-on project in the class and their projects will be evaluated by peer-assessment forms in the classroom environment. Pre-service teachers will give each other feedback, and based on feedback they will revise their projects. After revision, they will present their final digital story project and grammar lesson plans through digital stories and their projects will be evaluated by instructor assessment and self-assessment forms in the classroom environment. The digital story project will constitute thirty percent, the preparing a grammar lesson plan through digital story will constitute thirty percent, the peer-assessment form will constitute five percent, and the self-assessment form will constitute five percent of the grade.

### **Teaching Environment (Technological Infrastructure, Equipment)**

"Grammar Teaching" course based on "Grammar Teaching through Digital Stories" module requires technological infrastructure and equipment for digital storytelling implementations. So the "Grammar Teaching" course will be held in the technology classroom at the Muğla Sıtkı Koçman University. The technology classroom capacity is 40 (forty) people. The classroom has forty (40) student computers, headphones with microphones, internet access. It also has an instructor computer, a projection, a smartboard and a whiteboard.

There is no required textbook. The recommended resources will be shared on the lesson management system every week. Pre-service teachers and instructor have the lesson management system account. The pre-service teachers' hands-on projects will also be uploaded the lesson management system as a final project. The course requires web-based, educationally relevant tools for creating supporting educational materials and digital stories. Pre-service teachers will need to create (or utilize) accounts on Google and other web-based tools, as instructed during the course. In the course, WeVideo software will be used for preparing digital stories. Before the start of the course, the faculty management will be contacted and the WeVideo software will be purchased. Thus, pre-service teachers will have access to a premium WeVideo account at no charge.

### **Plan B**

"Grammar Teaching" course based on "Grammar Teaching through Digital Stories" module will be implemented face to face form. However, in case of possible disruptions (pandemic, diseases, etc.), the course is planned to be converted to an online form. For this reason, all the teaching activities in the module are planned in such a way that they can also be applied in online form. In case of the courses are online, there will be no change on assessment and evaluation methods. Pre-service teachers will prepare a digital story as a group as a final project. They will also prepare an individual grammar lesson plan that includes their digital stories and instructional support materials

as in face to face education. If the courses are online, the courses will be held through the lesson management system. Online courses can be held via Adobe Connect or Zoom software on the lesson management system. Courses will be held synchronously and course records will be added to the lesson management system every week. Thus, pre-service teachers who cannot attend the lesson that week will be able to watch the lesson asynchronously.

Especially in Module *III Grammar Teaching through Digital Stories*, Zoom software will be preferred as it allows more interaction while performing the teaching activities.

In the course, WeVideo software will be used for preparing digital stories. Before the start of the course, the faculty management will be contacted and the WeVideo software will be purchased. In case WeVideo premium access cannot be purchased by the Faculty of Education management, pre-service teachers will be directed to the free access plan of the WeVideo software. The digital stories they prepare will be evaluated according to the features provided by the free access plan.