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DESIGN-BASED RESEARCH IN TEACHING TURKISH TO FOREIGNERS: MODELS, PROCEDURE AND A DESIGN EXAMPLE*

Research Article

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Abstract: This study addresses the process of designing technology-based materials with design-based research (DBR) in teaching Turkish to foreigners. In DBR, researchers aim to design innovative content to solve learning problems or make improvements in an educational context. For this purpose, a research team is established and holds regular meetings in cooperation with all stakeholders including practitioners and experts. The educational context in which the targeted intervention will be implemented is observed in advance and information is collected to make a thick description of it. Then, the intervention is conducted in the relevant context. DBR interventions are carried out iteratively, which means necessary improvements are made with the data obtained during and after the intervention. To introduce this relatively new methodology to the field of teaching Turkish to foreigners, this article first reviews common methods and technology-based studies in teaching Turkish to foreigners; and then, DBR is presented and proposed as an innovative and alternative method for conducting design studies in the field. Furthermore, prominent DBR models are summarized. Then, the model of this study is explained with reference to the phases and design examples. Based on the model, researchers first formed a research partnership. The team chose argumentation as a problematic learning subject through regular meetings, literature review and observations. The intervention was conducted in three weeks with a group of 19 foreign students learning Turkish at the B2 level at TÖMER, Gazi University, during the Fall term of the 2024/2025 academic year. Prior to the intervention, a pre-test was applied to understand the current level of the group in argumentation. When compared to the pre-test performance, it was observed that the participants showed progress in recognizing and producing arguments, completing the missing parts in an argument, using modality to argue and the use of conjunctions in interactive exercises and their final assignments.

Keywords: Argumentation, design-based research, formative experiments, multimedia learning, **t**eaching Turkish to foreigners.

YABANCILARA TÜRKÇE ÖĞRETİMİNDE TASARIM TABANLI ARAŞTIRMA: MODELLER, SÜREÇ VE BİR TASARIM ÖRNEĞİ

Araştırma Makalesi

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Özet: Bu çalışmada, yabancılara Türkçe öğretiminde tasarım tabanlı araştırma (TTA) ile teknopedagojik öğrenme materyali geliştirme süreci ele alınmıştır. TTA'da, öğretim sürecinde karşılaşılan sorunların çözümüne veya mevcut öğretim pratiklerinin iyileştirilmesine yönelik yenilikçi müdahaleler geliştirilmesi amaçlanmaktadır. Bu amaçla kurulan araştırma ekibi kurumlar, öğreticiler ve alan uzmanlarıyla iş birliği içinde düzenli toplantılar gerçekleştirir. Belirlenen bir sorunun çözümüne veya iyileştirme yapılacak alanlara yönelik hedeflenen müdahalenin gerçekleştirileceği eğitim bağlamı gözlemlenir ve geliştirme sürecini şekillendirmek için gerekli bilgiler toplanır. Ardından geliştirilen yenilikçi çözüm ilgili bağlamda uygulanır. TTA'larda, uygulamalar döngüsel olarak gerçekleştirilir. Bu nedenle, müdahale sırasında ve sonrasında elde edilen veriler

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değerlendirilerek öğrenme nesnelerinde gerekli düzenlemeler yapılır. Bu çalışmada, TTA yabancılara Türkçe öğretimi alanında gerçekleştirilen teknoloji temelli çalışmalar için alternatif ve yenilikçi bir metot olarak sunulmaktadır. Bu amaçla, öncelikle yabancı dil olarak Türkçe öğretiminde yaygın olarak araştırılan konular ve başvurulan yöntemler incelenmiş; ardından TTA ve öne çıkan modelleri hakkında alanyazın taraması yapılmıştır. Ardından, TTA uygulamalarına somut bir örnek olarak araştırmacılar tarafından gerçekleştirilen tasarım ve geliştirme çalışmasının modeli ve aşamaları materyalden örneklerle açıklanmıştır. Bu modele göre, araştırmacılar müdahaleyi tasarlamak ve yürütmek için öncelikle bir araştırma ekibi oluşturmuştur. Düzenli toplantılar, literatür taraması ve gözlemler yoluyla argümantasyon bir öğrenme sorunu olarak belirlenmiştir. Ardından çalışmanın gerçekleştirileceği okul ve katılımcılar belirlenmiş; müdahale öncesi gözlemler gerçekleştirilmiştir. Çalışmanın örneklemini Gazi Üniversitesi TÖMER'de B2 seviyede Türkçe öğrenen 19 kişilik yabancı öğreniciler oluşturmaktadır. Uygulama süreci 2024/2025 Güz döneminde üç haftalık bir süreçte gerçekleştirilmiştir. Araştırmanın sonunda, öğrencilerin argümanları tanıma ve üretme becerilerinde, bir argümanın eksik bölümlerini tamamlamada, argüman üretmek için uygun kip eki kullanımında ve bağlaç seçiminde kayda değer gelişmeler gözlemlenmiştir.

Anahtar Kelimeler: Argümantasyon, biçimlendirici deneyler, çoklu ortamla öğrenme, tasarım tabanlı araştırma, yabancılara Türkçe öğretimi.

Introduction

Various methods and approaches have been proposed in foreign language education so far, providing strategies and techniques for effective teaching and meaningful learning. Thanks to these contributions, practitioners can integrate up-to-date knowledge and their own experience into teaching practices. Teaching Turkish to foreigners, as a relatively new academic discipline, is continuously growing in this aspect with an increasing number of contributions from both practitioners and academic research, drawing on the accumulated knowledge in foreign language education, identifying various problems in the field related to teaching/learning practices, and offering new strategies and techniques for improvement.

Research on teaching Turkish to foreigners has already covered a broad spectrum of topics. According to Maden and Önal (2021), researchers in the field mostly focused on vocabulary teaching between 2015-2020, which was followed by writing, grammar, speaking, and listening skills respectively. As mentioned above, the range of the studies are quite extensive from linguistic to cultural components of language, such as text modification (Durmuş, 2019), pragmatics (Durmuş and Kılınç, 2021; Kökçü, 2023), conversation analysis (Sumruk, 2021), intercultural competence (Durmuş and Sumruk, 2021), and so on. Moreover, as a result of technological progress in all areas of life, researchers all over the world are conducting more and more studies to incorporate technology into education. In this regard, the field of teaching Turkish to foreigners is no exception. it has been observed that technology-driven studies are becoming increasingly prevalent in the field recently in a wide range of topics including the incorporation of podcasts (Yorgancı, 2021), social media (Çangal, 2020; Şimşek, 2023), digital storytelling (Karalök, 2020; Şener, 2023), Web 2.0 tools (Göker and Bekir, 2019; Güven and Banaz, 2020; Kurtoğlu et al., 2023; Okur, 2024), flipped learning (Ceylan, 2024), and digital materials development (Gün and Delen, 2022; Şendoğdu and Boylu, 2023; Kılınç and Özkök, 2024), which demonstrates the alignment of the discipline with modern technological advancements.

On the one hand, these studies can be regarded as marking the beginning of a new era in academic tendencies. On the other hand, several questions arise regarding how to design and develop materials that will meet the criteria of effectiveness in terms of content, pedagogy and technology use. Design-based research (DBR), as a relatively new method, can be valuable in this aspect because it aims to solve real-life problems in educational contexts with innovative design solutions bringing technology, pedagogy and content-oriented teaching objectives together. DBR offers potential for creating educational practices aligned with the Fourth Industrial Revolution, which affects all areas in life with its unprecedented technologies such as artificial intelligence, machine learning, personalized/individualised web, mobile applications, and the like. DBR studies aim to benefit from this technology breakthrough, turning it into easily reachable, inexpensive and feasible educational opportunities that have the potential to solve learning problems and provide teaching/learning content tailored for the 21st century. For these reasons, technology-related DBR studies are already seen in foreign language education (Pardo-Ballester and Rodríguez, 2013; Hung, 2017; Ozverir et al., 2017; Ko and Lim, 2021; Thomas and Jayendran, 2021).

As DBR offers design models guiding the design process step by step and has a cyclical nature that is open to trials and errors, educational interventions (technopedagogical designs) benefitting from technology could be more systematic and their results could be more accurate through refinements in iterative cycles. Therefore, DBR can offer a framework as a new methodology for designing technology-based materials, innovative solutions to various learning problems, and reaching theoretical conclusions by design-test-implement-refine cycles in teaching Turkish to foreigners as well. In the light of the given information, in this study, researchers used DBR to bring an innovative design solution to *argumentation* in teaching Turkish to foreigners. In the literature, it appears that this genre is not challenging only for learners of a foreign language, but also for native speakers at different levels. Therefore, it can be concluded that teaching argumentation requires a more rigorous approach. For example, some studies conducted in Türkiye at elementary schools demonstrate that success rate in producing arguments seems to be quite low (Gökçe, 2016; Sis and Bahşi, 2016). Similarly, this rate might still be not high enough at university/college level (Qin and Karabacak, 2010; Ka-kan-dee and Kaur, 2015).

The reason might be that argumentation, even at the most basic level, requires a process of making a claim and supporting it in a rational and organized way with the purpose of persuasion, which is associated with intermingling cognitive, linguistic and intellectual processing. When it comes to foreign language teaching, according to CEFR (2020), learners at B1 level can read the main conclusions of argumentative texts and uncomplicated short texts where ideas are shared. At B2 level, they can understand much more complex texts and articles related to expertise, current texts that include stances and attitudes, and can distinguish different structures in texts (such as cause-effect relationships). However, it was observed that learners of Turkish as a foreign language had difficulties even at C1 level in terms of argumentation (Karabayır and Derzinevesi, 2015). This is not surprising because, as mentioned above, argumentation is already a challenging process for native speakers, too.

Therefore, considering these facts, researchers chose argumentation as the learning problem and aimed to design a solution to make the learning process more effective.

In short, this study aims to introduce DBR into the field of teaching Turkish to foreigners as a potential method for technopedagogical content production while focusing on solving a learning problem, *argumentation*, observed in the literature. To achieve this, first, the methods and technology-based studies in teaching Turkish to foreigners are discussed to be able to identify general tendencies. Then, DBR is defined and explained with reference to some generic DBR models. After that, the phases of the research model, which is deemed most suitable for teaching arguments in an educational context, are explained with references to the design procedure along with some examples of the designed material. The research questions as to the design procedure are the following:

1. How should the DBR model be selected and adapted for teaching Turkish to foreigners in the context of argumentation?
2. How should the learning materials be designed according to the DBR model to improve the argumentation skills of students learning Turkish at B2 level?

2. Theoretical Framework

2.1. Methods and Technology-Based Studies in Teaching Turkish to Foreigners

It is obvious that the range of studies in teaching Turkish to foreigners is expanding day by day and the field is developing academically with the research conducted. To analyze the studies in the field, Maden and Önal (2021) investigated the trends of 486 master's and 84 doctoral studies carried out between 2015-2020. The data were analyzed through the content analysis method. According to the results, 366 of these studies were qualitative while 92 of them used quantitative methods. 82 studies were observed to have a mixed research method (p. 50). The data collection tool of the vast majority of qualitative studies was document review, which was followed by interview forms and surveys. On the other hand, the majority of quantitative studies benefitted from affective scales and achievement tests. In studies using mixed methods, the interview form was the data collection tool mostly preferred by researchers (p.51). In another research, Maden (2021) reviewed the studies related to coursebooks in teaching Turkish to foreigners. The study included 155 theses, 139 of which were master's and 16 of which were doctoral. It was stated that 114 of the studies were qualitative and the vast majority of the qualitative studies were document reviews (p. 97). Similarly, Dönmez (2024) reviewed the academic studies between 2020-2023. The most frequent method in these studies was qualitative. Of the 132 postgraduate studies analyzed, 81 used qualitative, 28 used quantitative, and 19 used mixed research methods. The method was not specified in 4 studies (p.28). The coursebook sets of teaching Turkish to foreigners were at the top of the list in terms of research focus between these years.

When the technology-based studies are reviewed, it can be stated that the number of research in this context has increased especially after the pandemic. For example, Gün and Delen (2022) aimed to develop course materials for teaching Turkish to foreigners using the *Metaverse*. Şendoğdu and Boylu (2023) investigated the self-efficacy levels of teachers for developing digital materials and they found this level high enough to conduct such practices.

Okur (2024) conducted a study in which he presented some examples of the use of digital tools in teaching Turkish to foreigners. A study on the design and development of multimedia learning materials was conducted by Kılınç and Özkök (2024). In this study, the relationship between foreign language teaching and multimedia materials was addressed in terms of use, design and development; and a framework was presented to practitioners within the scope of Mayer's *Cognitive Theory of Multimedia Learning (2009*). The book *Dijital Çağda Yabancılara Türkçe Öğretimi (Teaching Turkish to Foreigners in the Digital Age)* was also introduced to the literature under the editorship of Durmuş et al. (2024) as a guide source in terms of the correct blending of technology, pedagogy and content components to design learning materials in teaching Turkish to foreigners.

In short, the general tendency in teaching Turkish to foreigners leans toward traditional methods which include qualitative approaches, such as document review and content analysis, as well as quantitative methods, such as surveys and scales used to measure various affective states, for example, self-efficacy and motivation. Although an increasing interest has been observed in the design and development of technopedagogical content in recent years and precious contribution has already been made, it is noteworthy that there is still not a common methodology or framework to follow for the design and development of technopedagogical content. In this aspect, as mentioned before, DBR can be used as an innovative and systematic approach in the field of teaching Turkish to foreigners as it carries out the design and development process step by step, testing, refining and improving the developed products with cyclical (iterative) interventions. Moreover, it does not only bring practical solutions, but also aims to reach theoretical inferences, using both qualitative and quantitative data. Therefore, it stands out as a potential method for innovative solutions to problems in the field of teaching Turkish to foreigners.

2.2. Design-Based Research

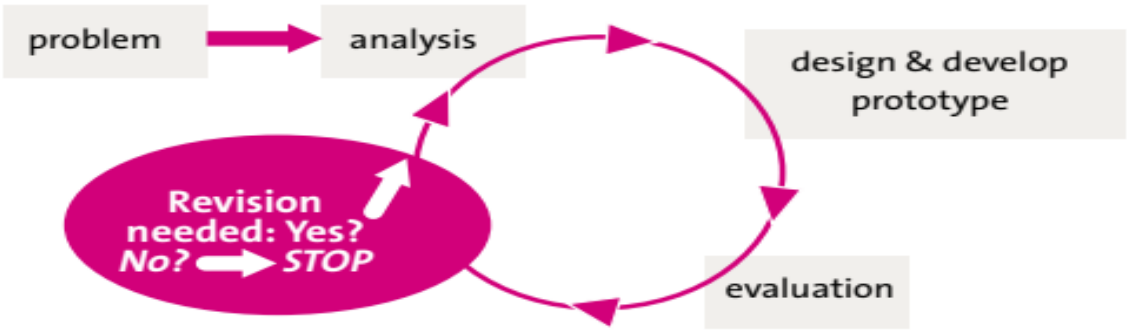
Design-Based Research (DBR) is a research method that aims to develop and improve educational practices, tools, or interventions through iterative cycles of design, testing, and analysis (Barab and Squire, 2004; Collins et al., 2004; Sandoval and Bell, 2004; Wang and Hannafin, 2005). It focuses on solving real-world problems by designing and implementing interventions in real educational settings while also contributing to theoretical knowledge. According to Wang and Hannafin (2005, p. 8), DBR is “a systematic, but flexible methodology”, focusing on improvements in educational settings using “iterative analysis, design, development, implementation”, “with the collaboration among researchers and practitioners”.

DBR studies include a variety of techniques, methods or approaches (Campanella and Panuel, 2021, p.3) aiming at "producing new theories, artifacts, and practices that account for and potentially impact learning and teaching in naturalistic settings" (Barab and Squire, 2004, s. 2). Although DBR comes under different names such as “design research” (Collins et al., 2004; Oha and Reeves, 2010), “development research” (Van den Akker, 1999; Conceicao et al., 2004), “formative experiments” (Bradley and Reinking, 2011), “design-based research” (DesignBased Research Collective, 2003), “design experiments” (Brown, 1992; Collins,

1992) and "developmental research" (Richey and Klein, 2005), they have some common characteristics such as being "a) pragmatic; b) grounded; c) interactive, iterative, and flexible; d) integrative; and e) contextual" (Wang and Hannafin, 2005, p. 7). In DBR studies, educational interventions are conducted in iterative cycles. In Figure 1, the iterations of a typical DBR study can be seen (as cited in Plomp, 2013, p. 17).

Figure 1

Iterations of Systematic Design Cycles



In this process, an educational problem is detected first and analysis is performed, using a variety of tools from observation to testing. After that, a design prototype addressing the problem is produced and tested in a learning setting. After the test, based on the data obtained from the measurement tools, it is refined and necessary changes are made. In this process, researchers, practitioners and other stakeholders should work in collaboration. The designed product is continuously improved and theoretical conclusions are made in the end (Campanella and Penuel, 2021).

DBR can be used for the following purposes: discovering new learning and teaching opportunities, developing context-based learning and teaching theories, increasing the level of knowledge about design, and contributing to innovative thinking in education (The Design-Based Research Collective, 2003, p. 8). Anderson and Shattuck (2012, pp. 16-18) argue that a good design-based research should have the following characteristics: a) being carried out in a real educational context; b) focusing on design and testing of the intervention; c) use of mixed methods; d) being carried out in more than one cycle; e) collaboration between researchers and practitioners; f) developing design principles; and g) having practical implications for implementation. DBR also aims to establish theoretical relationships related to the problem, to progress towards a pedagogical inference and to advance or develop a theory (Reinking and Bradley, 2004; Barab et al., 2004).

As mentioned before, DBR implements iterative interventions to improve educational practices (Armstrong et al., 2020). To do this, it includes steps and phases such as collecting data, analyzing data, designing, implementing the educational intervention, and redesigning it in a real educational context (Bradley and Reinking, 2011). DBR is a descriptive and cyclical approach that combines various methods to provide insights into learning processes (McCarty, Pappageorge, and Rueda Alvarez, 2021). Both qualitative and quantitative research

analysis can be used in DBR studies. In collaboration with all stakeholders, theories and interventions are improved in light of the obtained data and the process is maintained seeking a constant improvement and better results. In other words, there is always room for improvement in DBR. In this sense, the method is adaptive to changing circumstances by its nature.

2.3. Design-Based Research Models

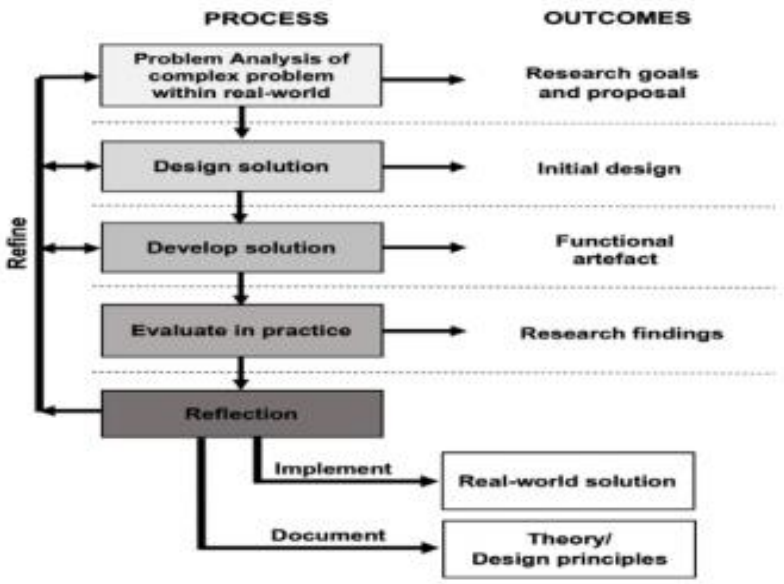
Various models have emerged regarding design-based research. In DBR, the research model must be chosen, established or adapted carefully in order to plan the design process step by step, to carry out and execute the design, development and implementation for the optimum results. This is important for formulating hypotheses correctly and solving the problem in the most effective way. Therefore, in this study, DBR models were analyzed and compared first to decide on the one that fits the research purposes in the context of teaching Turkish to foreigners. Upon literature review and weekly meetings among researchers, the framework by Reinking and Bradley (2011) was deemed suitable for the objectives. This section first summarizes some of the models used in DBR studies. Then, it explains the phases of the research model in detail, with which the design and development process was carried out.

2.3.1. Synthesized Design Model

Van Wyk and de Villiers's *Synthesized Design Model (2014*) is a model a frequently used in DBR. This model aims to design and implement an output (material, product) in cycles and make necessary improvements to provide a practical solution and theoretical contribution at the end of the process. As seen in Figure 2 below, in this model, a design is carried out in meso and micro cycles. Meso cycles consist of five micro cycles. Micro cycles include problem analysis, solution design, development, evaluation in practice and reflection steps (Van Wyk and de Villiers, 2014 as cited in Özkök, 2021, p. 288).

Figure 2

Synthesized Generic Model



This model can be used to develop new teaching materials and strategies. For example, Özkök and Yılmaz (2020) used this model in their study titled *Design, Development and Evaluation of New Generation Learning Objects for Vocational Education*. In the *problem analysis* phase, the researchers conducted interviews with instructors and the existing materials were examined in terms of pedagogy, technical aspects and content in order to identify the areas where learners had problems. Then, the goals and strategies for the study were specified. In the micro cycle of *design solution*, the research model and steps were decided. At this phase, a prototype was designed for the solution of the problem. In the *solution development* phase, the intervention designed together with the learners were carried out within a 3-week process. After this process, refinements/improvements were made in the prototype based on the data obtained from scales and learner interviews and the second cycle was started. At the end of the intervention, it was observed that higher results were obtained in each of the pedagogical, technical and content criteria (p. 780).

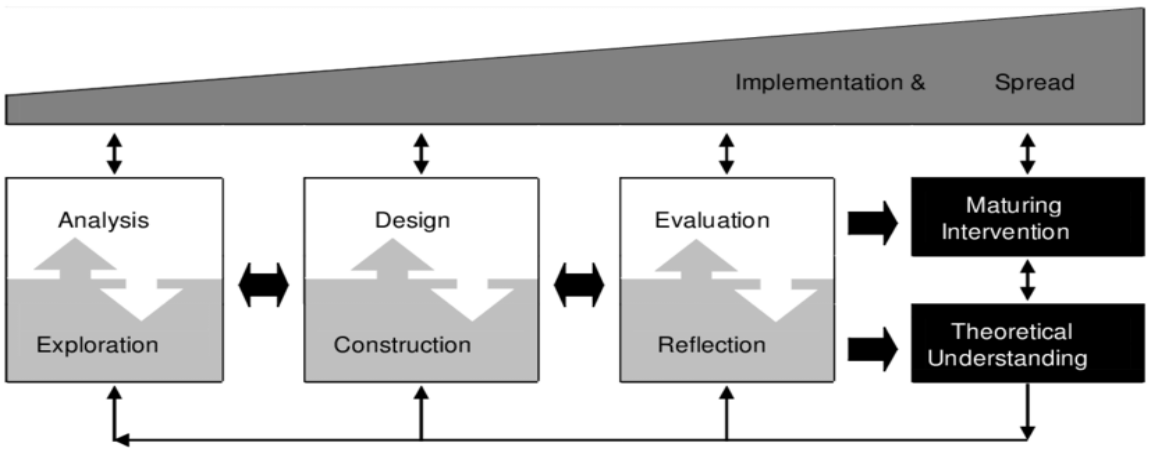
In short, the synthesized design-based research model developed by Van Wyk and de Villiers is a comprehensive model that aims to analyze various problems encountered in education and many other areas in collaboration with stakeholders, producing step-by-step solutions. Learning objects designed with this model offer practical solutions to problems, while also providing theoretical contributions with forward-looking suggestions.

2.3.2. Generic Model For Conducting Educational Design Research

Another DBR model was put forward by McKenney and Reeves (2012). This model also includes a cyclical process. It consists of observations, design and development process, interviews and finally the phase aiming to reach a theoretical understanding: a) analysis and discovery, b) design and construction, c) evaluation and reflection. Similarly, this model aims to analyze the problem, produce and implement a solution and finally make inferences about the process. The phases can be seen in Figure 3 below.

Figure 3

Educational Design-Based Research Model



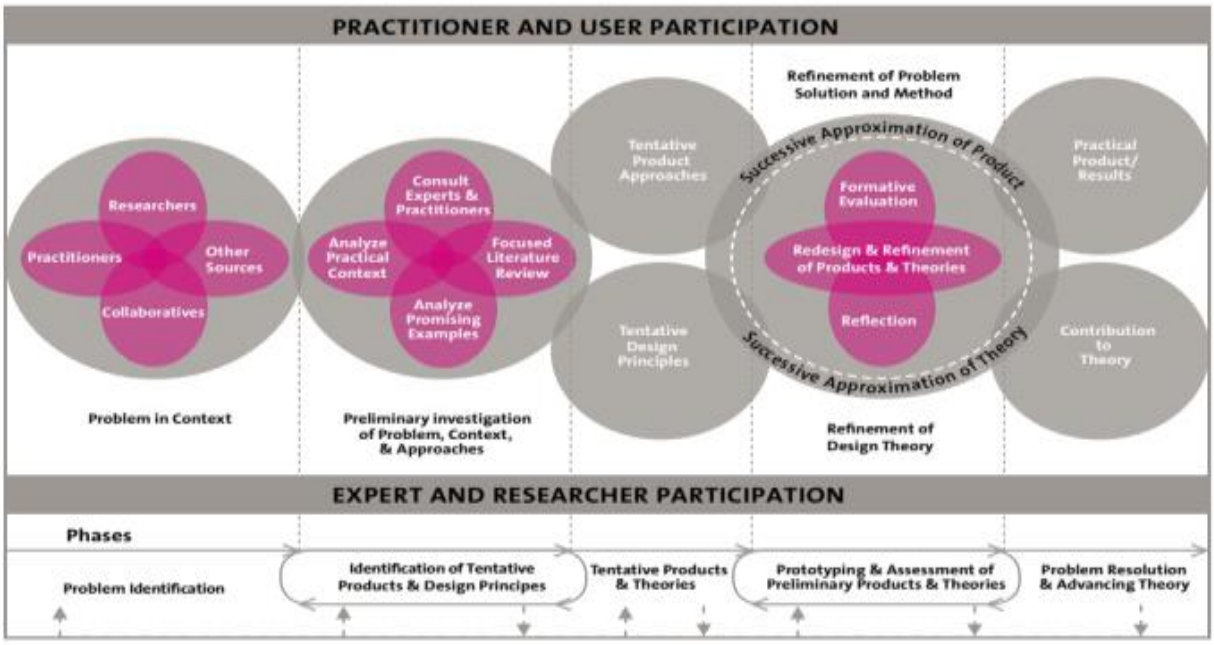
In a study called *Investigating the effects of authentic activities on foreign language learning: A design-based research approach* by Ozverir et al (2017), a design research was conducted using this model. They designed content including some learning scenarios and shared it with students on a Moodle platform. Students were asked to do research, collect information and bring solutions to certain problems to complete the scenarios. They did this by analyzing articles, producing posters and videos, participating in online discussions and producing written work. Students evaluated their development with the help of can-do statements. After the implementation, researchers reached 11 design principles related to authentic materials as a conclusion. Their research, which was implemented in phases and iteratively, can be shown as an example of a DBR study based on the model by McKenney and Reeves.

2.3.3. Generic Design Research Model

Another DBR model was proposed by Wademan (2005). In this model, problem analysis is made in collaboration among practitioners, researchers, and other stakeholders. Sources are researched to identify the problem carefully. Next step involves the preliminary investigation of the problem, context and approaches. To do this, the current literature is reviewed to identify the related examples. Also, methodologies, theories, techniques or tools that have the potential to solve the problem are analyzed, which is followed by the tentative design principles and product approaches. Next phase is the implementation and refinement of the solutions in successive interventions. In the end, practical results and theoretical inferences are made. As can be seen, this model, shown in Figure 4 below (Wademan, 2005; as cited in Plomp, 2013, p. 21), is a great summary of DBR models as it includes the main characteristics of DBR studies

Figure 4

Generic DBR Model



2.3.4. A Framework for Formative Experiments

Another important guideline that is referenced in educational studies was proposed by Bradley and Reinking (2011). They wanted to provide a guideline for experimental and design studies conducted in the context of education. For this purpose, they suggest six principles: a) pedagogical goals; b) developing educational intervention in line with the goals; c) identfying the factors that support and hinder the effectiveness of the intervention; d) making the necessary changes for a more effective intervention; e) taking the unexpected positive and negative effects of the intervention into account; and f) discussing the changes happening in the educational environment after the intervention. These principles are formulated into six questions which have to be taken into consideration when a design research is attempted (Bradley and Reinking (2011, pp. 314-315):

1) What is the pedagogical goal to be investigated, why is that goal valued and important and what theory and previous empirical work speaks to accomplishing that goal instructionally?
2) What instructional intervention, consistent with a guiding theory, has the potential to achieve the pedagogical goal and why?
3) What factors enhance or inhibit the effectiveness, efficiency and appeal of the instructional intervention in regard to achieving the educational goal?
4) How can the instructional intervention be adapted to achieve the pedagogical goal more effectively and efficiently and in a way that is appealing and engaging to all stakeholders?
5) What unanticipated positive and negative effects does the instructional intervention produce?
6) Has the instructional environment changed as a result of the intervention?

Colwell and Reinking (2013, p. 473) conducted a formative experiment based on these principles. According to this study, the procedure to apply the design principles is as follows: a) recruitment of participants, b) characterization of the instructional environment, c) collection of baseline data, d) iterative collection and analyses of data during the intervention, and e) retrospective analysis. In another study, researchers applied the phases as a) forming a research partnership, b) collecting information to understand the context, c) collecting baseline data prior to intervention, d) f) enacting, refining, and determining the intervention impact, and e) consolidating data and refining theory (McCarty et al., 2021).

Above-mentioned models by Van Wyk and de Villiers (2014), McKenney and Reeves (2012), Bradley and Reinking (2011), and Wademan (2005) involve the general characteristics of DBR despite having some differences. In these models, researchers and other stakeholders come together to identify a problem within a context, conduct preliminary research to solve the problem, make initial developments and designs, create prototypes, implement and improve interventions, and finally make evaluations and present theoretical contributions. However, researchers need to consider the subtle differences these models have as well. To do this, design studies conducted with these models must be reviewed and the model for the relevant study context must be chosen in terms of criteria such as practicality, flexibility and appropriateness in terms of study objectives.

2.4. Argumentation and Foreign Language Teaching

Argumentation is a verbal, social and rational action performed to support or reject propositions regarding points of view (Van Eemeren and Grootendorst, 2004, p. 1). It involves a complex process of reasoning and management of information as well as its discursive presentation for the purpose of persuasion (Kaygısız and Yazıcı, 2023, p. 1977). In his well-known work, *the Uses of Argument*, the British philosopher Stephen Toulmin presents a model for the structure of arguments. In this model, Toulmin identifies the main and supporting elements of an argument. According to him, an argument must have a *claim* or a conclusion. For example, the statement "some jobs will disappear because of artificial intelligence" is a claim. *Grounds or data* make the basis or rational ground on which a claim can be made. In the previous example, the speaker asserts this claim because "artificial intelligence is developing day by day and might possibly pose a threat to employment in the future", so it can be regarded as a grounded claim. In other words, this claim "makes sense" and is "debatable". The third main component is *warrant*. An argument cannot be made without supporting the claim. *Warrant* is the supporting statements to persuade others to agree with the claim. To support the above-given claim, the speaker might say, "some companies lay off employees even today as they are being digitalised. Therefore, they use AI instead of human force for certain duties".

So, according to Toulmin, these three components are the main parts of an argument. However, he also offers supporting components such as *backing*, *qualifier* and *rebuttal*. *Backing* is the component that aims to support the warrant with other explanations or examples. *Qualifier* shows the degree of probability of the claim to be acceptable. Finally, *rebuttal*, involves the process of contradicting the counter-arguments (Toulmin, 2003). Toulmin's argument structure offers a more detailed framework in which there is a main claim grounded in a certain discourse and supported by warrant, followed by backing, qualifier and rebuttal. However, when the learners of a foreign/second language are considered, all these steps may not be performed easily at once.

In this study, the argument structure has been examined under two main components: Premise(s) and a conclusion (Bowell and Kemp, 2018). According to this structure, an argument has a conclusion, or a claim, if we refer to Toulmin's terms. The speaker or writer makes this conclusion based on some premises, which are supporting details to persuade others. Therefore, researchers have not made a distinction among warrant, backing and qualifier at this level. During the intervention, students were taught these two components over sample argumentative texts (at paragraph level) and they were expected to produce arguments following this structure. In addition, language features such as vocabulary, grammar and conjunctions in arguments were analyzed.

3. Method

DBR studies benefit from both quantitative and qualitative methods. However, formative assessment has a significant role in DBR as it is cyclical in nature and the designed content is refined and improved after getting feedback and expert appraisals, applying micro evaluations and field tests. At later phases, other methods of data collection and an increasing number of

respondents through achievement tests and interviews are involved in the process (Van den Akker, 2013, p. 66).

In this article, at first, methods and research trends in the field of teaching Turkish to foreigners are analyzed and a relatively new method, design-based research, is offered as a framework for design studies. For this purpose, literature review and document analysis were conducted. Also, relevant studies were identified through Web of Science, including various DBR models. Among these models, Bradley and Reinking's model for formative experiments (2011) was chosen and synthesized with the phases suggested by McCarty et al. (2021) to conduct the design experiment in this research. This model consists of six phases. Researchers carefully adapted each phase to the context of teaching Turkish to foreigners, aiming to improve the argumentation skills of learners studying at B2 level. In accordance with the stages of the model, observations and a pre-test were conducted in the relevant context. The learning materials were designed and implemented in a period of three weeks during the Fall term of the 2024/2025 academic year.

3.1. Participants

Within the scope of the model, a research team was first established consisting of practitioners, researchers and experts. After that, researchers investigated the possible settings (schools) where the research could be implemented. The participants of the research were foreign students who were learning Turkish at TÖMER, Gazi University. The class consisted of 19 learners at B2 level from different countries such as Turkmenistan, Iran, Iraq and Morocco. In this sense, it was a multicultural context. Therefore, in the design and development process, this fact was taken into consideration. In deciding on the level of participants, the descriptors of the *Common European Framework of Reference for Languages (2020)* and the related literature about teaching arguments were taken as a reference point.

3.2. Data Collection Tools

Literature review was conducted to choose the research model. A pre-test was applied in which students completed the missing parts in a given argument. To evaluate the effectiveness of the design, participants were observed and interviewed. During the implementation, video recordings and observations were made. Student assignments were also collected on the digital platform and were evaluated by the researchers. Therefore, this study has a qualitative nature.

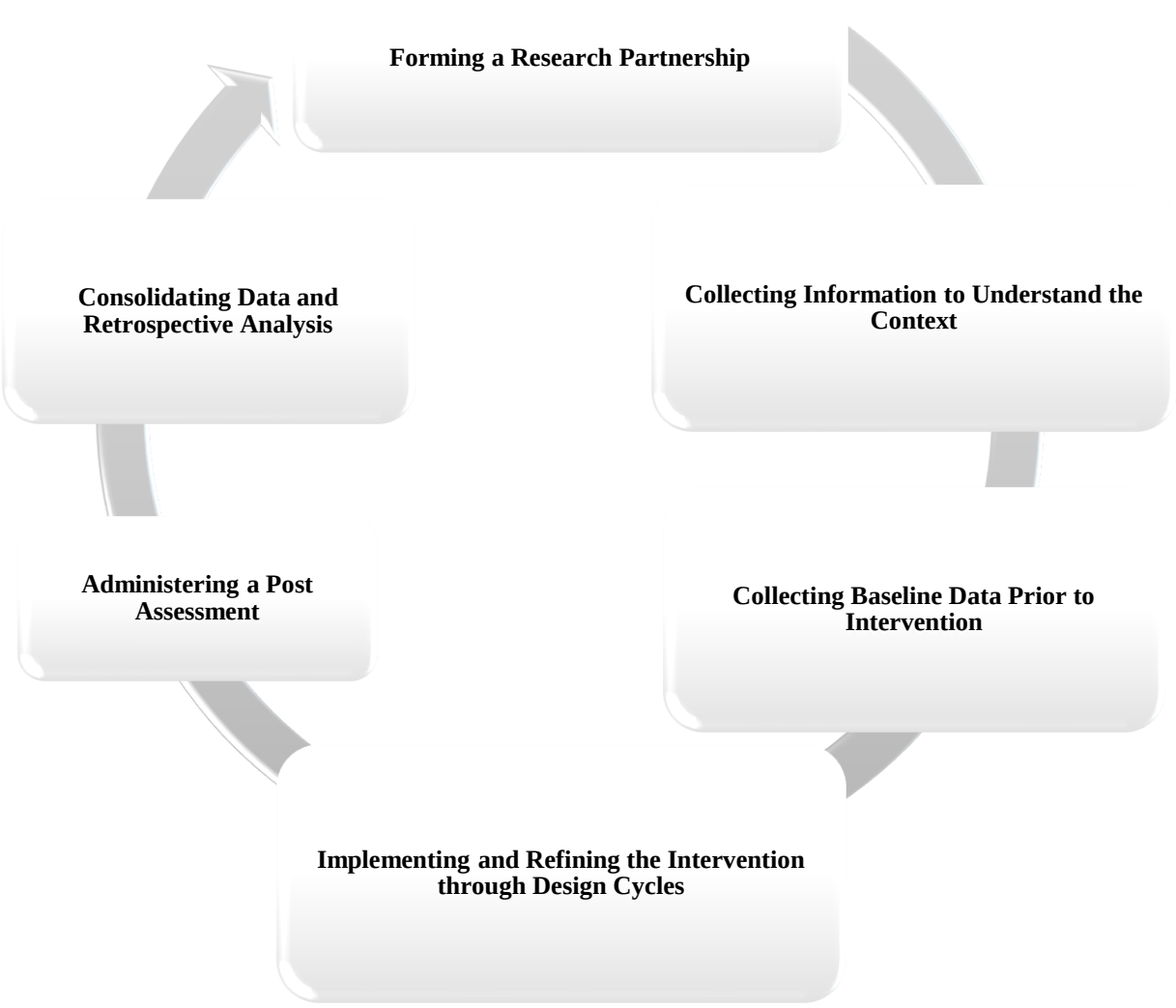
3.3. The Research Model: Design, Findings and Discussion

In this section, the design and development process carried out within the scope of the theoretical framework and method will be explained in detail as well as the design phase and findings of the design process. In DBR studies, data collection and evaluation can be carried out at various phases. Therefore, findings are discussed under the related phases of the research model. To establish the model of this research, the framework proposed by Bradley and Reinking (2011) was adopted as it was deemed suitable for the purposes of the study. Another reason is that this framework is for educational context specifically, and therefore, its

phases are very appropriate for focusing on educational problems. After reviewing some studies that used the framework, researchers synthesized it with the phases suggested by McCarty et al. (2021) and the model was structured into six phases. The cyclical phases of the research model can be seen in Figure 5 below:

Figure 5

The Research Model



3.3.1. Forming a Research Partnership

In the first phase of the research model, a research team is established in which all stakeholders such as field experts, developers, instructors and administrators cooperate. Then, schools are chosen and participants are recruited. Also, the research problem is identified and meetings are held to set the priorities and plans for the research (Bradley and Reinking, 2011; Colwell and Reinking, 2013). In our study, first a research partnership was formed including experts in teaching Turkish to foreigners, computer education and instructional technology and practitioners teaching Turkish to foreigners.

Throughout this phase, weekly meetings were held to negotiate ideas. Upon these meetings and literature review, learning and achievement problems in argumentative texts were detected and the research team decided to focus on a design research as to teaching arguments. Also, the general framework of the study was discussed. Related documents and information were collected. Researchers worked on which possible pedagogical, technical and content components would be the best to address the needs of the participants and the research problem.

3.3.2. Collecting Information to Understand the Context

In this phase, researchers evaluate the context to learn whether there are structural and systemic factors that will affect success among learners, determining what demographic and other factors may indicate differences in learner success, examining the curriculum, textbooks, teaching and learner styles, classroom routines, interaction patterns and so on (McCarty et al., 2021, p.174). Data is collected in line with the problem and objectives. For this purpose, observations are made in the classroom where the intervention will be carried out. Through these observations, the educational context, physical conditions, and learner profiles are examined to identify possible risks, if any. Therefore, during this phase, researchers held meetings with the practitioners and learnt about student profiles, class routines and dynamics as well as the materials used in the classroom. In terms of the design process, researchers discussed and decided on the themes, pedagogical and technical aspects of the study as well as the content features of argumentative texts to be used based on the collected information. Tentative samples of design solutions were devised using storyboards with which researchers wanted to create the outline of the real product.

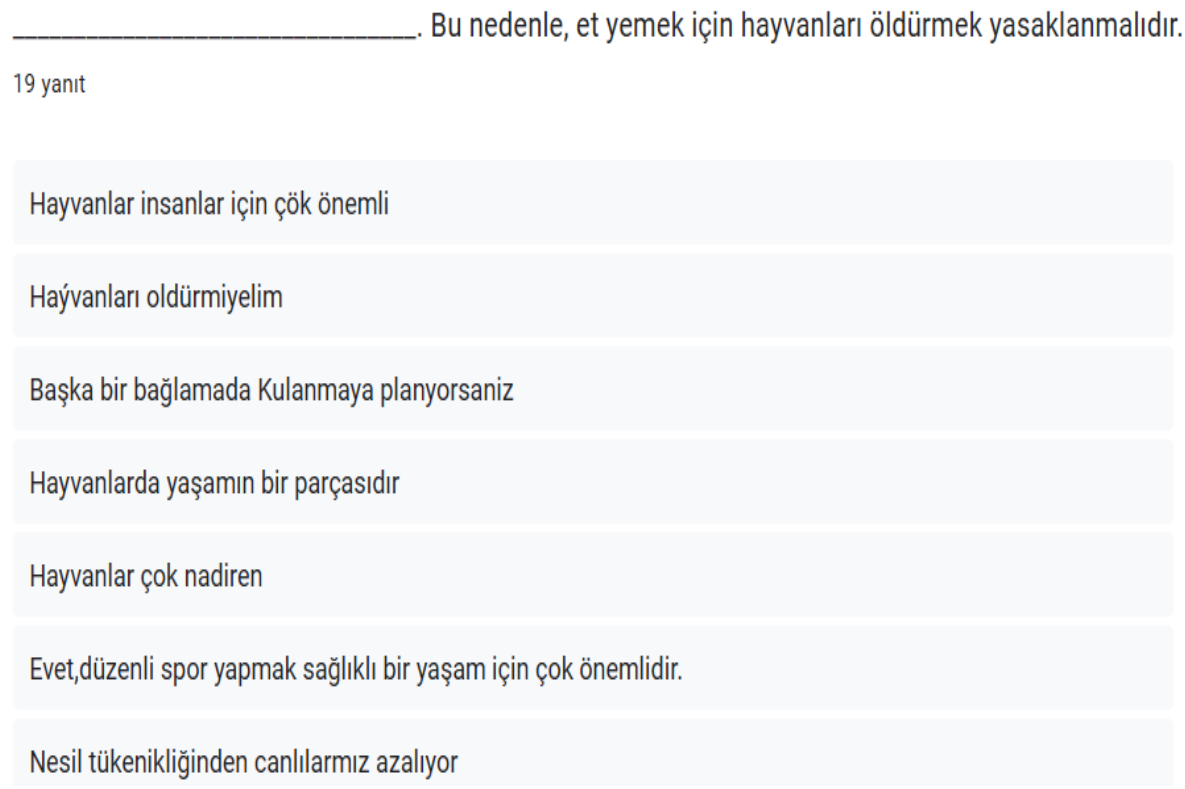
3.3.3. Collecting Baseline Data Prior to Intervention

In the third phase, the level of readiness of the learners for the problem is analyzed using various assessment tools (Colwell and Reinking, 2013). This phase provides baseline data thanks to which researchers can measure the effects of the intervention by making comparisons. This phase can also include design procedures, such as researching potential theories for solving the problem, researching potential interventions and applications that will achieve the pedagogical goal, researching materials related to the content, researching technological tools in line with the goals, examining the past learning experiences of the learners along with the data obtained through tests. With the assessment tools applied, researchers can have more insights into students' real needs.

In this study, a pre-test was implemented in this phase. The test aimed to measure students' proficiency in terms of completing the missing parts in a given argument. Even though there were responses meeting the felicity conditions as they completed the missing part rationally and using the correct forms of grammar and conjunctions, it was observed that most students had difficulties in understanding and completing the arguments given. Some of the responses were not meaningful, not appropriate for argumentation in terms of structural features or had grammar mistakes. Here's an example from the test:

Image 1

An Example of Student Responses in the Pre-Test

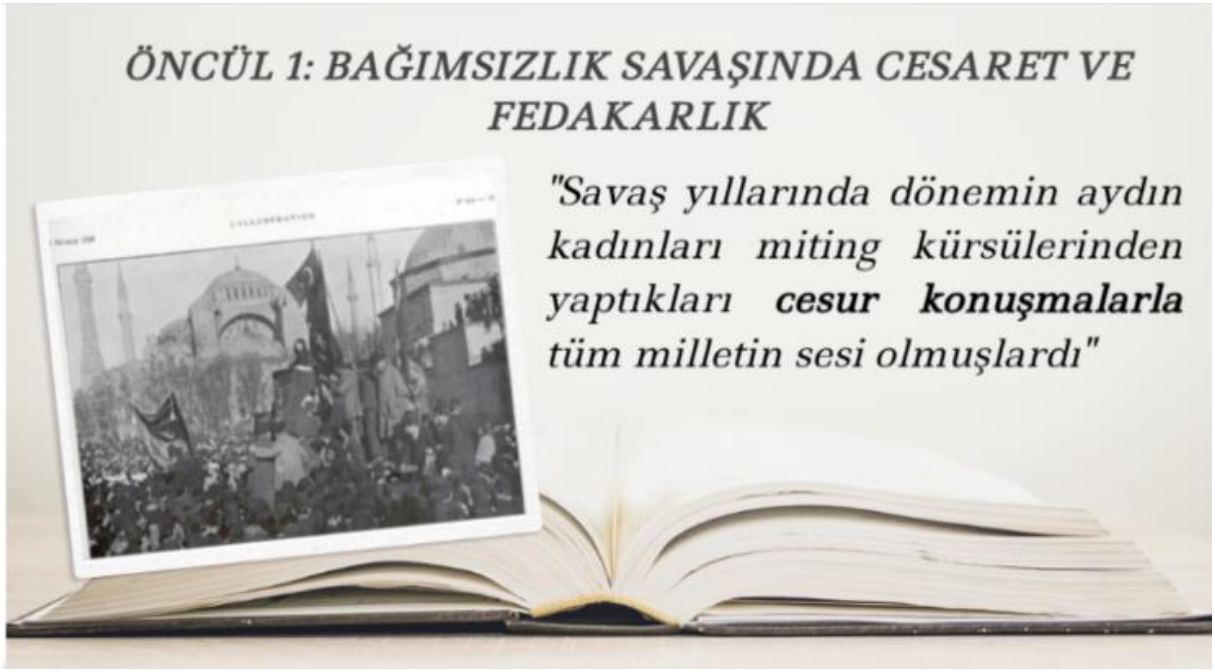


In this example, students are given the consequence component of an argument "bu nedenle, hayvanları öldürmek yasaklanmalıdır", which translates as "for this reason, slaughtering animals must be forbidden.". They are asked to write at least one premise to make it meaningful. Even though some meaningful responses such as "hayvanlar da yaşamın bir parçasıdır (animals are a part of life as well)" and a bit more vague ones such as "hayvanlar insanlar için çok önemli (animals are very important for human beings)" are observed, most responses do not make sense.

After evaluating student readiness in terms of arguments, storyboards were transformed into the course materials which will be used in the classroom using the editor called *Genially*. *Genially* is a platform where designers share their design products and templates. It offers interactive features and a simple interface for both learners and instructors. Moreover, it is compatible with mobile learning, which was another reason to use it. The implementation of the lessons lasted for three weeks, two hours in the classroom under the guidance of the instructor and one week outside of the classroom at students' own pace. Lessons were designed in this way to give students flexibility and take learning pace into consideration

Image 2

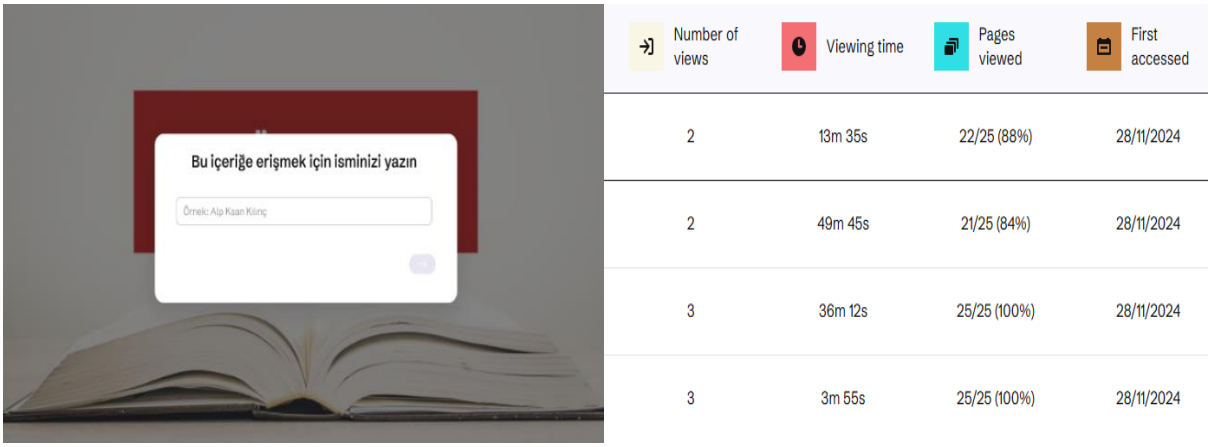
An Example of the Designed Learning Object



As for the design principles, researchers wanted to ensure that the visuals and content in the lessons were suitable for multimedia learning, did not cause cognitive load or have extranous details which might hinder the learning process. For this reason, unncessary decorations, visuals, and irrelevant information were avoided. Lessons were designed in a way that learners could access them via mobile phones. In addition, since they were supposed to write their names when they entered the lesson, instructors were able to identify the learners who responded to the interactive activities, how much time they spent to complete them, and their success statistics, which can be seen in Image 3 below.

Image 3

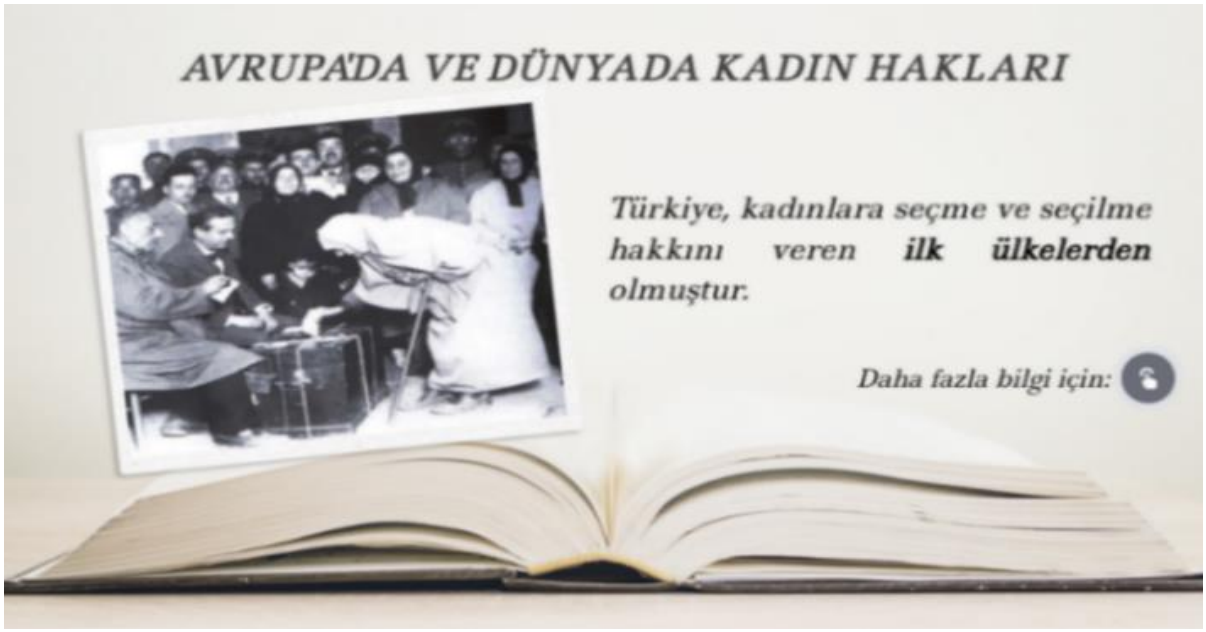
Tracking Student Performance



Also, pop-up windows and links are were included in the design material to provide extra details on the given subjects, which can be seen in Image 4 below.

Image 4

Interactive Components such as Pop-up Windows



The rationale behind this was to make the lessons more interesting and educational as leaners can use these links to expand their knowledge on a given subject. To ensure a smooth flow of the lessons, animations were used in the sections where there was a text and visuals. Researchers aimed to increase variety as much as possible considering different learner profiles. For this purpose, in addition to the above-mentioned interactive design features, different types of questions from open-ended to fill-in-the-blanks were added, which is shown in Image 5 below.

Image 5

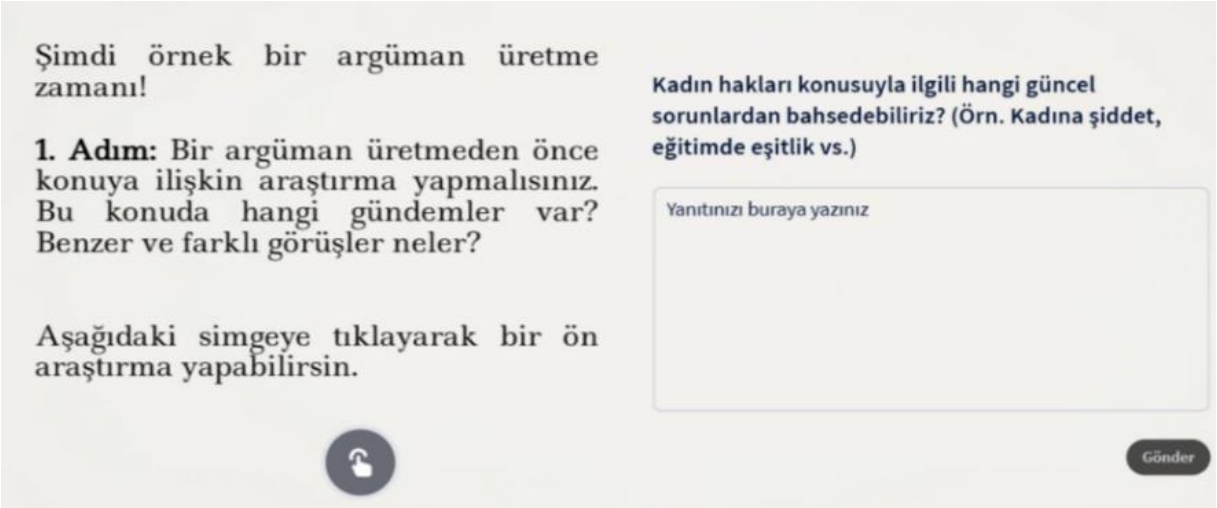
Interactive Questions

Also, gamification was used in in some exercises. According to Michos (2017, s. 513), gamification in language classrooms offer some advantages, such as improving students' mood and happiness, reducing fatigue, increasing motivation, attention and engagement, stimulating goal-orientation and making the learning more fun. Genially offers some

templates for gamified questions. Through these questions, students were able to practice the necessary components of arguments in terms of content, structure and grammar, which is essential for meaningful learning. The interactive questions also included organisational features such as cohesion and coherence and the students were expected to choose the correct conjunctions. They interacted with the mobile learning material in the class under the guidance of the instructor and on their own after the class. After the interactive exercises, students were expected to reflect on how to recognize and produce arguments step by step and carry out the argument writing process. In this section, researchers wanted to make sure that students were able to follow a set of algoritmic thinking or automation in terms of argument production. An example is seen below in Image 6:

Image 6

Argument Production Steps



The rationale behind this choice was that if students could learn the rules/steps of identifying and producing an argument, they could generalize this knowledge to other contexts. Therefore, before completing their arguments, they had to perform the steps such as deciding on what to write, brainstorming and researching, thinking of a conclusion and supporting it with premises, and using the correct grammar and conjunctions. All their products at this stage including the thought process were saved by the editor program, and used for the assessment of their performance.

3.3.4. Implementing and Refining Intervention through Design Cycles

In the fourth phase, the designed product is carried out in cycles. In each cycle, improvements are made after the data obtained from the measurement tools, observations, course records, learners' work and interviews are analyzed. After that, the next cycle is carried out.

In this study, a prototype designed to teach argumentation was tested at B2 level. The implementation process was observed, video recorded, and student work was collected through the digital platform. In this phase, researchers reflected on the question, “what went well and what went wrong?” to make the necessary modifications. Despite a few issues, the implementation went well in general. The participants were enthusiastic during the lessons

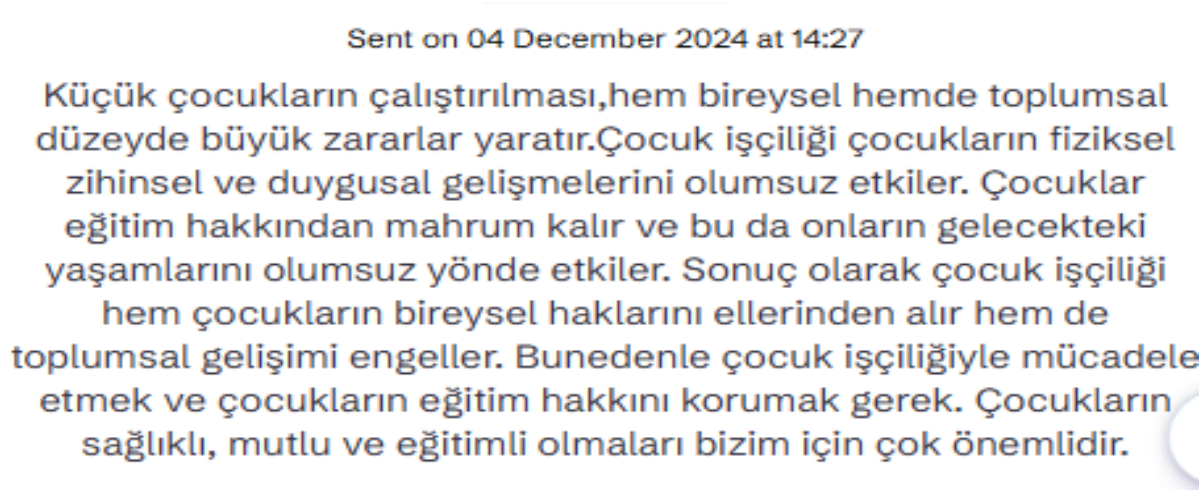
and they were proficient in Turkish enough to be able to conduct the study (they were able to follow the texts and content presented). However, some participants did not join the lessons or leave early at times, an issue affecting the efficiency of a method or lesson. There were some internet connection issues, too. Also, it was observed that the first two in-class lessons took a bit longer than the researchers expected. Therefore, it was decided to keep them shorter next time as it might have caused extraneous cognitive load on students.

As for the student interviews, a large number of them stated they enjoyed the gamified exercises. The researchers included these games during the lessons to make students more attentive and to make the learning content more fun. In terms of the learning objectives, students' perceptions on their improvement in arguments were generally positive, especially in identifying and producing premises and consequences of an argument. Some stated that they found the designed lessons engaging and like a different approach. Some students found the visuals in the multimedia material helpful for learning better. Other positive comments included how the lessons were presented by the instructor. However, some students stated that they had difficulties in understanding and producing longer arguments, which was a section in the designed content. There were also a few learners who stated they still need help for writing an argument, which shows that more action should be taken to meet those needs.

During and after the implementation, the students were supposed to produce arguments using the necessary component of arguments in each lesson. Still, when compared to their argument completion task in the pre-test, the majority showed higher achievement in producing argument components (premises and conclusion). Below is an example of a student work in which they were asked to write an argument on child education which must include at least one consequence and premise.

Image 7

An Example of the Student Work.



3.3.5. Consolidating Data and Retrospective Analysis

In the final phase, the design and implementation process is evaluated, inferences are made, and a modest theory (humble theory) is aimed to be put forward. In our study, the first implementation yielded positive results. It was observed that the design solution to the

learning problems in argumentation worked efficiently and the students learned more easily in lessons supported with multimedia learning. Students' written work, perception and opinions on the lessons seem to prove this conclusion.

However, as mentioned before, there is room for improvement. For example, in the material, some sections can be shortened as they took longer than expected, possibly causing unwanted cognitive load. Also, it was observed that longer and more complex texts were challenging for the students. There were also some sections which might be modified in terms of argumentation content. Some parts might be omitted or moved to other lessons to overcome level-related issues and timing. Therefore, the next implementation after the necessary modifications can provide more concrete results and more comprehensive implications.

Conclusion and Recommendations

With DBR, innovative solutions can be produced for various and unique problems encountered in foreign language teaching. These solutions offer the potential and opportunity to combine different pedagogical approaches, methods, and strategies with technology. In the literature, there are already some examples of DBR studies in foreign language teaching. For example, in a study conducted by Ko and Lim (2021), a mobile application, *WikiTalki*, was developed in order to improve students' speaking skills among South Korean middle and high school students. The results showed that student engagement and collaborative learning increased thanks to the designed app. Similarly, in this study, a design for mobile use was implemented and it worked well. As mobile phones are an indispensable part of our lives, students enjoy doing activities on their phones. Therefore, it can be concluded that DBR studies in foreign language teaching can benefit from mobile learning as a convenient strategy. But more importantly, it can be understood that DBR can find ways to relate to students' lives and interests with creative ideas.

In another study, Thomas and Jayendran (2021) investigated the use of DBR as a tool to create authentic and communicative materials for students' needs and certain problematic areas in the context of language teaching in India. Even though they conducted the study in an under-resourced context, their course design included peer collaboration and teacher faciliation to maximize student learning. They concluded that DBR can be used as an effective method even in areas where minimum levels of technology is available. As DBR offers flexible ways and is context-based, it can benefit from a variety of sources, and technological solutions do not have to be costly. Our study also confirms this. Students used their mobile devices and the internet to reach the materials, complete the exercises and produce arguments. These tools are available and can be reached in many educational contexts today. However, even without these opportunities, DBR can benefit from basic technologies to produce solutions.

In another inspiring design-based study, Hung (2017) used DBR to design a flipped classroom to improve students' communicative competence. To do this, episodes from a popular TV series, *Friends*, were used and an 18-week course was designed, which yielded positive results in students' willingness to communicate. In our study, similarly, students were able to complete some exercises at home on their own pace. This offered a more flexible learning

environment for students and might have had motivational impacts reducing the cognitive load and pressure.

Ozverir et al (2017) investigated the use of authentic activities in foreign language teaching through DBR. The researchers developed an e-learning environment incorporating authentic activities and implemented it in three pre-university EFL classes in Northern Cyprus over two research cycles, deriving 11 design principles related to authentic materials based on their experiment and student work. Using authenticity in DBR is a very common practice. As the use of authentic materials might provide comprehensible input for students, researchers in this study also used authentic materials with slight modifications. In our study, arguments were picked up among Atatürk's speeches on the given themes and intercultural comparisons were made, which made students more attentive and interested in the lessons.

Even though there are already certain studies and an increasing tendency to use DBR in foreign language teaching as mentioned above, there is a lack of similar studies in the context of teaching Turkish to foreigners. In fact, DBR, with its context-based nature and flexibility, may offer perfect solutions to a large number of problems in the field. To test it, researchers in this study formed a research partnership with all stakeholders from students, teachers to field experts to analyze the problems experienced in teaching Turkish to foreigners. Through literature review and meetings, it was decided that argumentation is a problematic area as students have difficulties in recognizing and producing them. To analyze this problem more deeply, researchers observed the learning setting and implemented a pre-test. Based on these data, researchers developed interactive learning objects and the designed contents were applied and tested at Gazi University with a group of B2 level learners of Turkish (n=19).

As mentioned before, students were not very successful in writing a premise to a given conclusion or vice versa in the pre-test. It was observed that only a few students completed the statements in a way that made a successful argument. However, after the first lesson, their performance showed significant progress in terms of recognizing and producing an argument, completing the missing parts of a given argument, the use of modality (-meli, -malı) in premises and conclusion, and the use of conjunctions (bu nedenle, çünkü). As the learning materials had interactive questions which students were able to do on their phones, their responses to these exercises were analyzed and their final assignments were collected, which also showed progress in most of the students. In addition to argumentation, students stated that they enjoyed the lessons. When their responses to interview questions were analyzed, it was seen that the positive comments included the contribution of visuals used in the materials, themes of the lessons (women rights, education and modernization), games and the way the lesson was presented. There were also some negative comments, though. Some students stated that they could not write an argument about some themes such as women rights or education. Some others found the final lesson on longer arguments a bit more challenging. All in all, it can be argued that the design solution through DBR to teach argument structure worked efficiently in general, which is also proven by the collected student work and their feedback in interviews.

As for limitations, the study was performed with a group of B2 level learners (n=19) of Turkish and at one institution. Also, the teaching content was limited to two main components of arguments and the evaluations were made qualitatively based on observations, interviews, and student progress through exercises/assignments. Therefore, similar studies can be conducted with more participants and/or including other components of argumentation. To test the designed product, a quantitative approach can be included as DBR is open to mixed methodologies. The DBR model adapted and used in this study can be applied in other design studies as well to teach Turkish to foreigners. As this study focused on texts under the genre of producing arguments, more studies focusing on argument structure can be performed using DBR or other similar studies on different text types and genres can be carried out to improve students' writing skills.

As DBR is a flexible methodology, the model used in the study can be adapted to other language skills, too. Thanks to DBR, instructors can take on the role of both developers and designers. Therefore, a lot of creative ideas can emerge in solving problems or in terms of making teaching processes more effective, interesting and suitable for the needs of learners. Following the model of this study, researchers can design content supported by visuals about listening skills for note-taking. The content can have narration and a story flow. Students can answer interactive questions based on their notes they take with the help of the visualised narration. Similarly, speaking activities can be designed using visuals and narration on familiar topics. The model used in this study is also very suitable for vocabulary teaching. Sound, videos and pictures can be used and a storyboard can be designed where the key vocabulary can be signalled/highlighted. Afterwards, students can be asked to do interactive exercises using these words. This content design can even be linked to productive skills by creating some speaking or writing scenarios.

In conclusion, DBR leaves a lot of space for creative and innovative ideas. It merges these ideas with its systematic and step-by-step design principles. Another advantage is that there is always room for modifications as it is an iterative process. Using DBR can contribute to areas such as problem detection in learning processes, cooperation among colleagues and experts, thus producing more interdisciplinary perspectives. For these reasons, it is believed that the increase in studies applying DBR in teaching Turkish to foreigners as a framework for design studies can significantly contribute to solving learning problems and advancing the field in this aspect.

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Genişletilmiş Özet

Yabancılara Türkçe öğretimi hem yabancı dil öğretimi çalışmaları hem de dilbilimden kültüre geniş bir yelpazede gerçekleştirilen disiplinlerarası çalışmalar ile giderek büyüyen bir alandır. Ayrıca son yıllarda teknoloji, çoklu ortamla öğrenme, yabancı dil öğretiminde çeşitli web araçlarının ve ortamlarının kullanımı gibi konular üzerine araştırmaların sayısının arttığı görülmektedir. Teknolojiye yönelik bu çalışmalar büyük ölçüde içerik malzemelerini, pedagojik çerçeveleri, yabancı dil öğretimi yöntemlerini, çoklu ortamla öğrenmeyi ve bu doğrultuda teknoloji araçlarını bir araya getirmeyi hedefler. Bunu yapmak için, teknolojiye dayalı öğrenme nesnesi tasarım sürecinin nasıl gerçekleştirileceğine dair uzmanlık ile süreç içinde takip edilmesi gereken kurallar, çerçeveler ve yöntemler gereklidir.

Bu çalışma, Tasarım Tabanlı Araştırma Yöntemi (TTA) ile yabancılara Türkçe öğretiminde teknopedagojik içerik üretimi süreçleri hakkındadır. TTA, sistematik ve aynı zamanda esnek tasarım modelleri sunarak teknopedagojik içeriklerin adım adım tasarımını ve geliştirilmesini hedeflemektedir. Alan yazınında farklı konularda ve yöntemlerde yürütülmüş sayıları giderek artan birçok çalışma olmasına rağmen, tasarıma dayalı çalışmaların azlığı dikkat çekmiştir. Aynı zamanda bu gibi çalışmalara rehber olacak çerçeve ve yöntemlere ihtiyaç duyulduğu görülmüştür. Materyal geliştirmeye yönelik araştırmalara rastlansa da bu araştırmaların yöntem açısından alandaki genel eğilimleri takip ettiği görülmektedir. Çalışmada bu amaçla, yabancılara Türkçe öğretiminde gerçekleştirilmiş araştırmaların konusu ve yöntemleri

incelenmiş; bu hususlarda gerçekleştirilen inceleme çalışmalarından örnekler verilmiş ve tasarım tabanlı araştırmanın alana sağlayacağı katkı üzerine fikir yürütülmüştür.

TTA, gerçek eğitim bağlamlarını ve durumlarını gözlemleyerek tespit edilen öğrenme problemlerine yenilikçi çözümler sunmayı hedefleyen bir yöntemdir. Bu bakımdan amacı sadece bir materyal tasarımı olmaktan ziyade, pratik çözümler sunmak ve buradan hareketle kuramsal çıkarımlara vararak kuram ve pratiği birleştirmektir. TTA modelleri tasarım sürecini yönlendiren ana ve alt aşamalardan oluşmaktadır. Genellikle iş birliğine dayalıdır ve araştırma öncesinde bir araştırma ekibi oluşturulur. Araştırmacılar, uygulayıcılar, yöneticiler ve uzmanlar iş birliği içinde sürecin her aşamasında fikir alışverişinde bulunur. Her bir aşamada gerçekleştirilecek adımlar araştırma öncesinde planlanır. Tasarım tabanlı araştırmalara; yeni öğrenme ve öğretim imkânlarının keşfedilmesi, bağlama dayalı öğrenme ve öğretim kuramlarının geliştirilmesi, tasarıma ilişkin bilgi düzeyinin artırılması ve eğitimde yenilikçi düşünmeye katkı sağlanması gibi amaçlarla başvurulabilir (The Design-Based Research Collective, 2003, s. 8).

TTA, gerçek bir eğitim-öğretim bağlamı içerisindeki problemlere odaklanır. Ancak sadece bu problemlerin çözümüyle yetinmez. TTA'ya dayalı tasarım süreçlerinde probleme ilişkin kuramsal ilişkiler kurmak, pedagojik bir amaç doğrultusunda ilerlemek ve bir kuramı geliştirmek veya ilerletmek de hedeflenmektedir (Reinking ve Bradley, 2004; Barab vd., 2004). TTA, eğitim uygulamalarını geliştirmek için tekrarlı (iterative) tasarımlar gerçekleştirir. Gerçek eğitim bağlamında tasarım süreci için veri toplama, veriyi analiz etme, tasarım yapma, eğitimsel müdahaleyi gerçekleştirme ve tekrar tasarlama gibi süreçleri barındıran bir araştırma yöntemidir (Bradley ve Reinking, 2011).

TTA'ya ilişkin çeşitli modeller bulunmaktadır. Bu çalışmada öne çıkan TTA modelleri kısaca açıklanmış ve aralarından Bradley ve Reinking'in (2011) "biçimlendirici deneyler (formative experiments)" için önerdiği çerçeve çalışmanın amacına uygun bulunmuştur. Bu model, pedagojik açıdan çalışmada kullanılacak yaklaşımlar ve öğretim hedefleri doğrultusunda yabancılara Türkçe öğretimi bağlamına argüman öğretimi kapsamında uyarlanmıştır.

Çalışma, 2024-2025 akademik yılı güz döneminde Gazi Üniversitesi TÖMER'de 3 haftalık bir süreçte uygulanmıştır. Çalışmaya 19 öğrenici katılmıştır. Çalışmanın örneklemini çokkültürlü bir sınıf oluşturmuştur. Uygulama öncesi öğrenicilerden kendilerine verilen argümanları tamamlamaları istenmiştir. Öğrenicilerin büyük bölümünün sonucu verilen bir argümana öncül; öncülü verilmiş bir argümana sonuç yazmakta zorlandıkları görülmüştür. Öğrenicilerin verdikleri yanıtlar incelendiğinde dil bilgisi ve bağlaç kullanımında sorunlar ve argüman yapısına uygun olmayan yanıtlar görülmüştür. Uygulama sürecinde öğretici tarafından haftalık 2 saat ders uygulaması yapılmış; bir sonraki derse kadar öğrenicilerden etkileşimli etkinlikleri tamamlamaları istenmiştir. Hem dersler hem de öğrenicilerin etkinliklere verdikleri yanıtlar kayıt altına alınmıştır. Bu hususlara ilişkin uygulama öncesi katılımcı rızası alınmıştır. Öğreniciler süreç boyunca sınıf içinde gerçekleştirilen oyunlarda, etkileşimli etkinliklerde ve ders sonlarında ürettikleri argümanlarda ön testte başarısız oldukları tüm alanlarda gelişme göstermiştir. Öğrenicilerin büyük bölümü bu gelişimi sözlü olarak yapılan görüşmelerde de belirtmiştir. Derste kullanılan metinleri, görselleri, oyunları ve

dersin sunum şeklini beğendiklerini ifade etmiştir. Ancak yine de argüman üretmekte zorlandığını ve özellikle uzun metinlerde argümanı ayırt etmekte kendilerini yeterli hissetmediklerini belirten öğreniciler de olmuştur.

Çalışmanın bazı sınırlılıkları bulunmaktadır. Bunlarda ilki çalışmanın örneklem boyutudur. Bu çalışma B2 düzeyinde Türkçe öğrenen 19 kişi ile sınırlandırılmıştır. Bu nedenle, benzer çalışmalar daha büyük öğrenici gruplarıyla tekrar uygulanabilir. İçerik ögeleri basitleştirilerek B1 düzeyinde ya da argümanın diğer bileşenleri ilave edilerek daha üst düzeylere göre yeni çalışmalar geliştirilebilir. Yapılacak uygulamalarda nitel yönteme ek olarak nicel yöntemler de kullanılabilir. Çalışmada argüman öğretimine uyarlanan model farklı metin türlerinin öğretiminde denenebilir. Modeldeki aşamalar takip edilerek yabancılara Türkçe öğretiminde metin öğretiminin yanı sıra diğer tüm beceriler için tasarım çalışmaları yürütülebilir.

Sonuç olarak, bu çalışma yabancılara Türkçe öğretimine tasarım tabanlı araştırmayı tanıtmayı ve bu araştırma yöntemini kullaranak öğrenicilerin yaşadığı bir öğrenme problemine yenilikçi tasarım çözümü getirmeyi hedeflemiştir. Bu açıdan çalışmanın hem tasarım hem uygulama aşamalarında başarılı sonuçlar verdiği görülmüştür. Tasarım tabanlı araştırmalar teknoloji temalı içeriklerin üretimi için rehber bir çerçeve sunmaktadır. Bu açıdan, alanda tasarım tabanlı etkinliklerin daha fazla kullanılmasının öğrenici, öğretici ve diğer tüm paydaşlar açısından sürece katkı sunabileceği düşünülmektedir.