Araştırma Makalesi/ Research Article

USAGE AND BENEFITS OF COEDU SOFTWARE IN GERMAN LANGUAGE TEACHING[1]

ALMANCA ÖĞRETİMİNDE COEDU YAZILIMININ KULLANIMI VE YARARLARI

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ABSTRACT: The Coedu software, which was prepared to contribute to German language teaching, is discussed in the study. The aim of the research is to enable learners and teachers of German as a foreign language to access resources on the internet more quickly and to increase the quality of German language teaching. For this reason, the software called Coedu (Circle of Education) was designed and coded. In the research, a descriptive survey model was used, and the answer to the question "Does the Coedu education platform contribute to the improvement of the quality of German Language Teaching?" was sought. The study is limited to 32 second-year German language teaching students at Trakya University for the 2018–2019 academic year. Pre-test and post-test questionnaires with a total of 28 items were designed using the Likert model to gather the attitudes and opinions of the participants. After employing Likert-type questionnaire, the participants were asked open-ended questions to interpret the lifelong learning, autonomous learning, and advantages of the Coedu platform, and qualitative data were collected from the participants. In the research, it was concluded that the Coedu software contributed to the teaching of German in many ways, including the improvement of German language skills, lifelong learning, and material development. The findings revealed that the software developed is effective in improving German language skills, and it both saves time and makes material preparation more enjoyable.

Keywords: Computer-assisted German Language Teaching, Material Development, Instructional Management Systems.

ÖZ: Çalışmada, Almanca öğretimine ve eğitime katkı sağlaması amacıyla hazırlanmış olan Coedu yazılımı konu edilmektedir. Araştırmanın amacı, yabancı dil olarak Almanca öğrenenlerin ve öğretenlerin, internet üzerinde kaynaklara daha hızlı ulaşabilmesini sağlamak ve Almanca öğretiminde kaliteyi arttırmaktır. Bu sebeple Coedu (Circle of Education) adı verilen olan yazılım tasarlanmış ve kodlanmıştır. Araştırmada, betimsel

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tarama modelinden yararlanılmıştır ve "Coedu eğitim platformu, Almanca öğretiminin kalitesinin artmasına katkı sağlıyor mu?" sorusuna cevap aranmıştır. Araştırma, Trakya Üniversitesi Almanca Öğretmenliği 2018/2019 2. Sınıf öğrencileri (n=32) sınırlıdır. Öğrencilerin tutumu ve görüşlerini elde etme amacıyla 28 adet sorudan oluşan Likert modelde hazırlanmış ön test ve son test anketleri hazırlanmıştır. Likert modeldeki anket uygulamalarından sonra katılımcılara Coedu platformunun yaşam boyu öğrenmesinin, otonom öğrenmesinin ve avantajlarının yorumlanmasının istendiği açık uçlu sorulardan oluşan görüşme formu verilmiş ve katılımcılardan nitel veriler toplanmıştır. Araştırmada Coedu yazılımının Almanca öğretimine birçok yönden katkı sağladığı sonucuna varılmıştır. Almanca dil becerileri gelişimi, yaşam boyu öğrenme, materyal geliştirme bunlardan bazılarıdır. Elde edilen bulgular geliştirilen yazılımın Almanca dil becerilerinde etkili olduğu ve materyal hazırlamada hem zaman kazandırdığı hem de daha eğlenceli olduğu sonucunu ortaya koymuştur.

Anahtar Kelimeler: Bilgisayar destekli Almanca öğretimi, Materyal Geliştirme, Öğretim Yönetim Sistemleri

1.   INTRODUCTION

The ever-changing and evolving structure of life has been reflected in education as well as in every subject throughout history. Mankind began its educational adventure with the shapes they drew in caves and the writings they carved on trees, and then continued with the discovery of paper. Immediately after, the developing technology started to carry education to virtual environments, and the texts continued to spread with the internet infrastructure.

With today's technological developments, the integration of education and technology is increasing day by day. In this information age we live in, it would not be the right approach to think that education and technology are independent of each other. The rapid development of the computer and its spread to all segments of society is one of the most significant technological developments. The use of computers has led to great changes and innovations not only in industry and science but also in education (Türker, 1990). Software and programs produced for education can be considered one of the most important of these innovations. These software programs can be internet-based or available offline. Web sites written specifically for education and social networks can be given as examples of Internet-based software. Although the main purpose of social networks is not to improve education, it can be seen that they contribute to it. The use of social networks in the field of education is valuable not only in terms of information but also in terms of creating opportunities for students and teachers to get to know each other (Öztürk & Talas, 2015). It can be said that Facebook, one of the most well-known social networks that has not lost its popularity yet, supports every aspect of education. Facebook not only meets the communication needs of students and teachers but also helps with upcoming events, useful links, homework sharing, and out-of-class needs (Muñoz & Towner, 2009). Sites or systems prepared for the

purpose of improving education, on the other hand, serve this field, unlike social networks. These systems can be called Learning Management Systems (LMS).

"The purpose of LMS is to facilitate e-learning activities and perform them in a more systematic and planned manner. As learning activities are evaluated through these systems, the process of learning is constantly improved. Since the student's actions are also monitored, learners are assisted when necessary" (Duran, Önal & Kurtuluş, 2006).

In this context, new learning management systems are added every day, and it is evident that resources are distributed at different points. The Coedu education platform, which was prepared to enrich education and training, increase and organize the activities used, and bring students and teachers together on an education platform, was designed and coded in the context of this research in order to contribute to the education of German in Turkey with its easy-to-use and simple interface. In this study, the positive or negative feedback of the Coedu education platform from the users who were pre-determined for the research was evaluated, and how effective it is in teaching German is discussed in the conclusion section.

Within the scope of this information, Trakya University German Language Teaching 2018–2019 second-grade students were preferred because it will be evaluated whether their contribution to German Language Teaching is efficient or not.

Considering the studies local researchers' studies on the field of "Computer-Assisted German and Foreign Language Teaching", the main notable works can be as follows: Aras (2016) " The Use of New Web-Tools in Teaching German as a Foreign Language", Arslan (2009) "The Use of Web-Assisted Learning Model Moodle in Teaching German as a Foreign Language and Its Effect on the Learning Process – An Empirical Study in the Context of Writing Skills ", Yılmaz (2014) "Students Learning English as a Foreign Language" Their Thoughts on Computer-Aided Language Learning and their Random Vocabulary Learning Through Online Comprehensive Reading", Tunçok (2010) "A Case Study: Students' Attitudes to Computer-Aided Education, Computer-Aided Language Education and Foreign Language Learning", Bayrak (2013) "German Language Teaching Program Students' Views About the Use of Internet and Computer in Foreign Language Teaching", Özerol (2013) "The Effect of Computer-Assisted Language Learning on German Vocabulary Learning", Demirbilek and Yücel (2011) "English Language Teachers' Perspectives on Using Computer Games for Second Language Language Teaching and Learning", Aydın and Biroğul (2008) "Open Source Learning Management Systems in E-Learning and Moodle", Berigel (2007) "Designing, Developing and Evaluating Web-based Language Material", Can (2012) "Supporting Learner Autonomy in the Context of Foreign Language

Teaching through Virtual Learning Environments" and Çetin, Çalışkan and Menzi's (2013) "The Views of Academicians' on Web-Based Instruction".

The following can be listed as noteworthy in the field of foreign studies: Nim Park and Son (2009) " Implementing Computer-Assisted Language Learning in the EFL Classroom: Teachers ' Perceptions and Perspectives", Brandl (2005) " Are you ready to " Moodle ", Blake (2011) " Current Trends in Online Language Learning" and Platten's (2008) " Gemeinsames " Schreiben im Wiki - Web- Aktivitäten in einer untutorierten Schreibwerkstatt for fortgeschrittene Deutschlernende ".

1.1. Statement of Problem

It is clear that learning management systems, which are among the new trends in foreign language teaching, are increasing day by day and that many different types of resources are being added to the educational structure. It can be said that many learning management systems that emerged in this context are located in the virtual environment in a dispersed manner, and people who learn or teach German as a foreign language have difficulties accessing these resources. In order to solve this problem, it has been determined that there is a need for a system that will bring together scattered systems and support the teaching of German as a foreign language in Turkey.

1.2. Purpose of the study

The aim of the study is to enable learners and teachers of German as a foreign language to access resources on the internet more quickly and to enrich the quality of education in German teaching. For this reason, an educational platform called Coedu has been designed and coded.

1.3. Research Questions

In order to achieve the aim of the study, answers to the following questions were sought:

● Does the Coedu education platform contribute to improving the quality of German language teaching?

● Will you actively use the Coedu education platform to teach German when you become a teacher in the future?

1.4. Significance of the Study

Teaching German as a foreign language can be realized with many methods and orientations. Perhaps one of the most important of these orientations is the contribution of computer-assisted foreign language teaching to education. It may not be correct to say that there are many language teaching materials and German teaching sites on the Internet and that they are sufficient and regular. It is thought that the design of a system that both enriches the teaching of German and allows each user to easily access materials, topics, videos, teachers and students, and all the resources they need in education, contributes to the field.

1.5. Assumptions

It is assumed that the students forming the sample of the research answered the questions honestly, accurately, and sincerely. In addition, the findings were examined in depth with the method of the research, and it was assumed that they were reliable. It is assumed that the relevant literature section constitutes an adequate theoretical framework for the research.

2.   METHODOLOGY

"How can we contribute to German Language Teaching? was the initial question that this study process, which began with the design and development of the Coedu software, focused on. Before the research process started, ideas for the Coedu software were gathered. The software and design process were then used to create a completely unique platform. Since the researcher worked alone in the software and design phases during the development process, the project took more than a year and is still being developed. Throughout the development process, different ideas were considered and different people's viewpoints were taken into account. At the same time, certain basic criteria were given importance during the development. These criteria are: it can be listed as being free, functional, and easy to use; it has a simple interface that can be easily understood by all age groups; and all user inputs are supported by a control mechanism.

The main reason this platform is free is because many web-supported applications with educational content or materials are paid or limited, which causes financial difficulties for learners. The Coedu platform has a simple interface, and the biggest factor in designing it this way is that learners can understand the topics more easily and can easily access the section or information they want. Here, one of the most important points among the basic criteria is the function of all user inputs supported by the control mechanism. It is possible for everyone to support this platform, and thus the growth of content will be easier with everyone's contributions. The control mechanism, on the other hand, is a supporter that strengthens it.

2.1. Research Design

This study, which aims to collect and analyze the opinions of pre-service German teachers about the use and benefits of Coedu software in German language teaching, was designed with a descriptive survey model. Research that aims to identify an existing situation is called research conducted in the descriptive survey model. With this model, science has the characteristics of observing, recording, detecting the relationships in events and reaching generalizations between the unchangeable principles that are controlled, and briefly the descriptive function of science is important (Şimşek & Yıldırım, 2011). The Likert measurement technique was used as a quantitative data collection tool in the study. Before introducing Coedu, a pre-test and post-test were administered to determine the

attitudes of the participants towards web-supported applications and to evaluate their opinions after the Coedu presentation. The pre-test and post-test, which were employed to obtain the attitudes and opinions of the participants, were survey applications designed in a Likert model and consisted of 28 questions. After the pre-test application, the Coedu platform and all the applications within the platform were introduced in line with the 4-week practice study, and it was explained how the participants could make their German language teaching more effective with this platform, which they could access from the Coedu address (https://www.coedu.com.tr). Following the Likert-type questionnaire applications, participants were given a questionnaire with an open-ended question asking them to interpret the lifelong learning, autonomous learning, and advantages of the Coedu platform, and qualitative data were collected from them. The collected quantitative and qualitative data were processed separately using the descriptive analysis method. The collected qualitative data were counted and calculated based on the frequency of repetitions in the answers. After the quantitative and qualitative data were calculated and analyzed separately, they were tabulated as numbers and percentages. The analyzed and then tabulated data were added to the findings section of the study, as represented in the tables.

2.2. Settings and Participants

The research is limited to 32 participants, including Trakya University German Language Teaching 2018–2019 second-grade students. The findings obtained through the research are limited to the answers given by the students who contributed to the research and the results of the survey designed for the research.

3.   FOREIGN LANGUAGE TEACHING IN TURKEY

Foreign language teaching in Turkey dates back to ancient times. It can be listed under different categories, such as foreign language teaching before Islam, foreign language teaching after Islam, and foreign language teaching in the Republican period. Under this topic, foreign language teaching in the Republican period is discussed.

One of the most important developments in the field of education in the Republican period was "The Law on Unification of Instruction." With this law, education was brought together in the whole country, and western languages were added instead of languages such as Arabic and Persian. Examples of Western languages are English, German, Latin, and Italian.

According to Çelebi (2006), the search for education in Turkey coincided with the period following World War I, and the instructors coming from abroad were insufficient in foreign language teaching during this period. As a result, it was revealed that there was no proper and sufficient institution that trained foreign language teaching staff in those years.

With the Eight-Year Compulsory Education Program, foreign language was made compulsory for 4th and 5th graders for 2 hours a week in 1997-1998. In the 6th, 7th, and 8th grades, foreign language education was given 4 hours a week according to the new schedule. In 2005-2006, while foreign language was made elective in general high schools, it was made compulsory in foreign language-based high schools (Tok & Arıbaş, 2008).

3.1.   New Directions in Foreign Language Teaching

New trends in foreign language teaching can be considered the most important part of the literature sections on foreign language teaching of this study. The connection between this section and the study is that such research was conducted in response to the needs arising from new orientations.

As a result of the development of methods in foreign language teaching and the rapid progress of technology, people have entered into new directions and begun new searches in language teaching. The main purpose of these pursuits can be said to make language teaching faster, more effective, and more functional. Thanks to scientific and technological developments, more visuality has emerged compared to traditional methods, and this has provided access to more sensory organs. Reaching more sensory organs and increasing visuality in language teaching reinforced memorability and made the learning process more fun and enjoyable (Uzel and Hangul, 2010: 157). It might be insufficient to only emphasize technological content as new orientations in foreign language teaching. There are different trends as well as technological developments. Some of these new orientations categorized by Demirel (2010) are as follows:

➢ Internet Based Learning
➢ Distance Education
➢ Cooperative Learning
➢ Project Based Learning
➢ Multiple Intelligences Theory and Education
➢ Active Learning
➢ Creative Thinking and Creativity
➢ Mastery Learning Model
➢ Lifelong Learning

The orientation for portfolio-assisted language teaching can be investigated after examining the orientation for computer-assisted language teaching. This learning orientation can be considered one of the most important new ones. The most important part of this learning orientation stems from the Council of Europe's implementation of the European Language Portfolio Project in all participating member countries. The European Language Portfolio not only allowed students to

actively participate in the lesson but also allowed students to learn on their own, tried to gain a sense of responsibility, and made teaching richer and more effective thanks to its multi-material support (Ege, 2011:129).

Portfolios in portfolio-supported language teaching consist of three parts. These are:

➢ The Language Passport: This passport contains all the languages and levels that the individual knows.

➢ The Language Biography: In this section, all previous language experiences and learning processes of the individual are included.

➢ The Dossier: This file contains the individual's language-related certificates, diplomas and studies.

Project-based learning, on the other hand, is a form of learning in which the learner is responsible for their own personal development. When using this learning model, learners aim to solve problems collaboratively. According to the project-based learning method, the teacher must determine the projects carefully in advance. The teacher should be fairly even-handed and encourage learners to define roles and distribute topics. Apart from all these roles, holding meetings at certain times and following the progress of the project are other duties of the teacher (Saracaloğlu, Özyılmaz, Yeşildere, 2006: 6).

The multiple intelligence-based learning model was developed by Howard Gardner in 1983, and instead of dealing with the concept of intelligence from a single aspect, it revealed that it has many and various aspects. Gardner came to the fore again with the publication of a new book with the same name in 1993, and there are seven different concepts of intelligence in this book. The eighth was later added. Ünal- Karagüven (2018) listed these concepts as follows;

1. Verbal/Linguistic Intelligence (Verbal / Linguistic intelligence)
2. Logical / Mathematical / Numerical Intelligence (Logical / Mathematical Intelligence)
3. Musical/ Rhythmic Intelligence
4. Spatial / Visual Intelligence
5. Bodily/Sensory Intelligence (Bodily-Kinesthetic intelligence)
6. Interpersonal/Social Intelligence (Interpersonal intelligence)
7. Individual/Intrapersonal Intelligence (Intrapersonal intelligence)
8. Naturalistic Intelligence

As can be seen from these concepts, the multiple intelligences-based learning model is a method that includes many intelligences and avoids considering the individual from a single aspect. In this section, the new trends in foreign language teaching are explained. In the next section, what language teaching

materials are, how they should be used, and their place and importance in foreign language teaching will be discussed.

3.2. Language Teaching Materials

In this part of the study, the use of materials in language teaching, the place of materials in the learning-teaching process, criteria to be considered in material design, and various materials in language teaching will be discussed.

3.2.1. What is "Material Use" in Language Teaching?

In foreign language teaching, the use of materials plays an active role, along with new orientations. Although the concepts related to language teaching were explained in the previous chapters, it can be claimed that the relationship between language teaching and materials is very important. Because one of the most important tools in learning a foreign language is undoubtedly the materials used and chosen.

Technological developments have always managed to affect education. It can be seen that the education levels of societies with advanced technology are also advanced. After the Renaissance and Reform, education has reached higher levels in European society, and developing teaching materials has gained more importance compared to the past (Baytekin, 2004: 24). An example of this is the invention of the printing press. Books, which had very few prints before the printing press was invented, managed to reach thousands of copies after it was invented. It has been quite effective in disseminating education and knowledge through written materials.

With the development of techniques in foreign language teaching and the emergence of new trends, the use of materials has become an integral part of language teaching. Materials can be in various forms and on different platforms. In this way, students can actively benefit from the materials. Material development also plays an active role in language teaching today, and it is obvious that it has become a specialty even when only material development is considered.

The materials used in language teaching can be defined as different tools used in the classroom or in different teaching environments and used to attract the attention of the student. These materials can be written or printed sources, as well as software related to technology, such as CDs, websites, or computer-written software.

Various materials and technologies developed to provide better and more effective learning for students with individual differences in the classroom can be very productive in this regard (Kaya, 2006: 3). For this reason, the use of different materials and technologies in the lesson can both make the lesson fun and provide efficiency in terms of being permanent.

3.2.2. The Place of Materials in the Learning and Teaching Process

The use of materials plays a very important role in the learning and teaching process. They are tools that every teacher should use in terms of both ensuring permanence and increasing the quality of the education given.

Kaya (2006:3) emphasized that materials are used to support teaching in general in the learning-teaching process and mentioned that well-thought-out materials make the teaching process more effective. In addition, materials have been listed under the headings that they provide a multi-learning environment, help meet the individual needs of students, and attract attention.

3.2.3. Criteria to be Considered in Material Preparation

The contribution of language teaching materials to education and language teaching has been mentioned in the previous parts of the study, and the types of these materials in different environments were also mentioned. In the design of these materials, there are a number of criteria and principles put forward by the researchers that should be considered.

Şimşek (2002) listed the criteria for a material to be usable as follows:

➢ It should be designed in a way that is compatible, easy to use, and able to reach the student as soon as possible with the least effort.

➢ The elements in the material should be in a whole.

➢ The text used should be clear, clear and easily perceptible.

➢ The colors used in the material should be harmonious, and if there is a place to draw attention, they should be designed with different colors.

➢ Pictures, drawings, writing and examples should be as appropriate as possible to the age and gender of the student.

➢ Objects should be uncomplicated and understandable at first glance

As it is seen in these given items, materials have many criteria, and these criteria are very important in preparing materials. Teaching materials should be designed in accordance with these criteria before they are prepared. Just as before starting a project, it is researched in the smallest details and a plan and program are made, so it is necessary to make a design in order to prepare materials. Yanpar (2007) emphasized that the principles of Gestalt psychology are important in this design and listed these principles as shape, time, proximity, similarity, completion, continuity, and simplicity. In addition to these criteria, it is also important that the material is related to the course content. Duman (2013) emphasized the importance of designing material for the relevant basic skill, noting that written resources for reading comprehension and auditory materials for listening skill would be preferable.

Apart from the material preparation criteria, it is important to have information about how the material to be designed will be presented. Even if

someone is incredibly knowledgeable about a topic, it could not always be explained or presented in an effective way. Material development and presentation can be considered as a whole, and in this context, determining the presentation technique will provide convenience in transferring the material and using it more efficiently. In the next section, information regarding computer-assisted foreign language teaching will be provided.

3.3.   Computer-Assisted Foreign Language Teaching

In this section, the definition of Computer-Assisted Foreign Language Teaching, Advantages of Computer-Assisted Foreign Language Teaching, Software in Computer-Assisted Foreign Language Teaching and Lifelong Learning will be discussed.

3.3.1. What is Computer-Assisted Foreign Language Teaching?

In this part of the study, computer assisted language teaching, which is one of the cornerstones of the study, will be discussed. Computer-assisted language teaching is directly related to the research topic and the software that has been prepared by the researchers. "*Computer-assisted education is a teaching method that envisages the use of multimedia software in single or multi-student environments for educational purposes*" (Engin, Tösten, & Kaya, 2010). Computer-assisted education can be used for many purposes. Halis (2002) tabulated these goals in general as follows:

Table 1: Aims of Computer-Assisted Education (Halis, 2002)

Purpose of usage	Sample Usage
For Administrative Purposes	Accounting and Reporting Record Keeping Stock Preparation of Curriculums
Learning from Computer	Computer Literacy Computer Engineering
Learning via Computer	Tutorial Programs Practice programs Simulation Programs Educational Games Tests

As illustrated in Table 1, computer-assisted education can be used in many areas. Computer-assisted foreign language teaching, as the name suggests, basically includes computers and developing technologies in language teaching. Today, almost every home has a computer, which is very beneficial for language learning. Computers make education more effective by visualizing the classical educational environment. It increases the quality and permanence of education by

carrying out applications that would not be possible in the classroom environment (Karaduman, 2008: 29). In the light of this information, it can be said that computer-assisted foreign language teaching is giving foreign language education independent of time and place with the help of computers.

3.3.2. Advantages of Computer-Assisted Foreign Language Teaching

Computer-assisted foreign language teaching is undoubtedly a very useful approach for language education today. In this section, the contribution and advantages of computer support to language teaching will be discussed.

It is argued that one of the biggest advantages of computer-assisted education is that it supports lifelong learning. Lifelong learning is vital to education. Yörük (2016) mentioned that computer-assisted teaching supports lifelong learning and expressed that each learner will provide learning according to their own needs and desires. In addition, he emphasized the importance of flexibility in the curriculum, as special software was written and prepared in accordance with the purpose.

Computer-assisted foreign language teaching can also include internet-assisted education. Today, with the development of technology, it is well-known that the internet is now found in almost every home or in various places. It is evident that this access provides faster access to information and makes education independent of time and place. In Table 2 below, traditional education methods and internet-assisted education are compared as follows:

Table 2: Traditional Education Methods and Internet Assisted Education (Çetin, Çakıroğlu, Baymış and Ekiz, 2004: 147)

Traditional Language Environment	Internet Assisted Environment
Lesson-based	Discussion-based
Structural	Flexible
Purposeful	Result oriented
Mostly Teacher-centered	Independent Student
Large Classes	Small Classes
The teacher is a source of information	Teacher leads to knowledge

According to Table 2, computer-assisted education or internet-assisted education is quite advantageous over the traditional language environment. It is apparent that it has many advantages in terms of being flexible and independent, having small classrooms instead of large areas or large classes, moving away from teacher-centered information, and moving to internet-based information that can be accessed from anywhere in the world.

It can be noted that all these advantages are very important for foreign language teaching, but one of the most important advantages can be said to embody the concepts during language teaching. Lai and Kritsonis (2006) discussed that teaching many concepts through language is abstract and difficult, and they said that the images on the computer can be a solution to this difficulty while teaching these concepts.

In the next part of the study, Software and Lifelong Learning in Computer-Assisted Foreign Language Teaching will be discussed.

3.3.3. Software and Lifelong Learning in Computer-Assisted Foreign Language Teaching

Software can be considered one of the cornerstones of computer-assisted foreign language teaching. The software can be web-based learning projects or desktop software. These software systems can be open source or closed source systems. It is clear that these software programs written on different platforms affect the lifelong learning of the individual.

Eren (2018) emphasized that language evolves along with cultures and societies. Therefore, he highlighted the necessity of lifelong learning to follow the development of language by noting that lifelong learning is a part of a process that develops personal and social skills. It is widely believed that a large part of this process is software in foreign language teaching. As discussed in the previous section, one of the biggest problems with the software used in foreign language teaching and education is its high cost. With open-source software, this cost is reduced, and it has been argued that it can contribute to lifelong learning. Aydın and Biroğul (2008) emphasized that, apart from all the other advantages of open-source software, it eliminates the cost in the field of education. With the elimination or reduction of costs, lifelong learning can take place more effectively.

In this part of the study, Software in Computer-Assisted Foreign Language Teaching and Lifelong Learning were discussed. In the next section, Computer-Assisted German Teaching will be discussed.

3.4. Computer-Assisted German Language Teaching

In this section, Software and New Needs in German Teaching, Examining New Software in German Teaching, Benefits of New Software Developed for German Teaching will be discussed.

3.4.1. Software and New Needs in German Language Teaching

Today, many organizations or individuals develop software for teaching German. The use of existing software in teaching German can be beneficial, as with any other language. The software used in teaching German can be open-source or completely dependent on individuals or institutions. At this point, it can be questioned which software should be used or how sufficient the existing software is.

In the previous sections, it has been discussed that foreign language learning has become easier with the proliferation of software and the increase in materials available on the internet. On the other hand, many studies have concluded that it is difficult to find tools for teaching German. As a result of his research, Bayrak (2013) found that some students in the German curriculum had problems accessing the sites or could not find reliable resources. These findings may reveal the necessity of new needs and new software in teaching German. In addition, Demiroz (2016) emphasized in his research that online learning, e-learning, and flipped learning are no longer an option, but a necessity in this century. At this point, the importance of new software and web-supported applications can be seen in German language teaching.

3.4.2. Examining New Software in German Language Teaching

There are numerous software programs that can help with both direct and indirect teaching of German. To list them briefly, examples such as Moodle, eStudy, ATutor, Dokeos, Duolingo, Babbel, and Lang -B can be given. One potential starting point for discussion could be the educational platform known as Moodle. Moodle is very popular software in the field of education, and it has been observed that it is used very often in language teaching. Ünal (2013) stated in his research that learning with Moodle affects the writing skill of a foreign language, but emphasized that it will be more productive provided that the course is managed effectively and this platform is used in accordance with its purpose.

Another example is Babbel. Babbel is a subscription-based language learning application and e-learning platform. It was launched in January 2008 and is available in many languages. It is also a social networking platform and offers its users the opportunity to video and voice chat.

To give yet another example, one of the most popular applications today is Duolingo. Jašková (2014) discussed that duolingo has a well-prepared system for language teaching, but emphasized that in the course contents, reality is insufficient. Many examples of software for teaching German can be listed. The important issue here is how effective the benefits of this software are and how much they contribute to German language teaching.

In this section, the subject of Examining New Software in German Language Teaching was discussed. In the next part of the study, the Benefits of New Software Developed for Teaching German will be discussed.

3.4.3. Benefits of New Software Developed for Teaching German

As mentioned in the previous topics of the study, it suggested that the software developed for language teaching is very useful both in designing materials, in the effective use of time, and in accessing information easily. This is true for teaching German as well. It is believed that the new software developed in German language teaching includes important benefits such as using time more

effectively, providing faster access to information, bringing learners together, and making learning more effective.

Arslan (2009) emphasized that the software, which he describes as a learning platform, has a positive effect on the learning process as it contains all the activities that can be used in the learning process. In addition, he discussed that it provides many functions and is beneficial to students and teachers. It can be concluded that all this software is functional and useful both for teaching German and other languages.

4.   FINDINGS

The interpretation of the findings takes place in the Findings section. In this section, establishing a cause-and-effect relationship in the findings and making a comparison between different cases can lead to more productive results (Şimşek & Yıldırım, 2011). Pre-test and post-test data from second graders as participants are presented in this section of the study. Due to ergonomic reasons, the research had to be limited to findings related to material development.

4.1. Findings Related to Material Development

Table 3: Data Showing the Material Preparation Skills of the Second-Grades in Web-Supported Applications and Coedu in German Language Teaching in Percentiles

		I agree	I'm undecided	I do not agree
Web-supported foreign language teaching applications improve my material preparation skills in German Language Teaching.	n	25	7	0
	%	78.1	21.9	0
The Coedu platform improves my material preparation skills in German Language Teaching.	n	32	0	0
	%	100	0	0

It is displayed in Table 3 that 78.1 % of the 32 students who participated in the pre-test agreed with the statement that web-supported foreign language teaching applications improve their material preparation skills in German language teaching, and 21.9 % answered as undecided. According to the post-test results, 100 % of the 32 students agreed that using the Coedu platform enhanced their capacity to prepare materials in German language teaching.

Table 4: Data Showing Second Grades' Improvement of German Language Skills in Material Development Using Web-Supported Applications and Coedu in Percentiles

		I agree	I'm undecided	I do not agree
Developing material with web-supported foreign language teaching applications helps to improve my German language skills.	n	27	5	0
	%	84.4	15.6	0
Coedu helps improve my German language skills.	n	32	0	0
	%	100	0	0

As demonstrated in Table 4, it is apparent that 84.4 % of the 32 students who participated in the pre-test agreed with the statement that developing materials with web-supported foreign language teaching applications helps to improve their German language skills, and 15.6 % answered as undecided. 32 students who participated in the post-test data all agreed that Coedu helps improve their German language skills. In the light of this result, it is concluded that the Coedu platform is effective for German language skills in material development.

Table 5: Data in Percentiles Showing that Web-Based Applications and Coedu are Not Useful for Developing Materials for Teaching German in Second Grade

		I agree	I'm undecided	I do not agree
Web-supported foreign language teaching applications are not a useful tool for developing materials in German language teaching.	n	4	1	27
	%	12.5	3.1	84.4
Coedu is not a useful tool for developing material in teaching German.	n	1	0	31
	%	3.1	0	96.9

Table 5 shows that of the 32 students who took the pre-test, 12.5 % agreed, 3.1% were undecided, and 84.4 % disagreed with the statement "web-supported foreign language teaching applications are not a helpful instrument for developing material in German language education". On the other hand, the Coedu platform is a helpful tool for creating materials in German language instruction, as evidenced by the post-test results, which showed that 3.1 % of 32 students agreed and 96.9 % disagreed.

Table 6: Data Showing Web-Assisted Applications and Coedu Available to Develop Materials in Percentiles

		I agree	I'm undecided	I do not agree
I can use web-assisted foreign language teaching applications to improve my material pool in German language teaching.	n	30	1	1
	%	93.8	3.1	3.1
I can use the Coedu platform to develop materials in German language teaching.	n	32	0	0
	%	100	0	0

According to Table 6, 93.8 % of the 32 participants in the pre-test agreed that they could use web-assisted foreign language teaching applications to increase the amount of information available for teaching German; 3.1 % are undecided, and 3.1% disagree. In the post-test results, all 32 of the students agreed that they could develop materials in German language teaching using the Coedu platform. This result leads to the conclusion that the COEDU platform and web-assisted applications can both be used for material development.

Table 7: Data Showing that it is Easier to Develop Materials with Web-Assisted Applications and Coedu in Second-Grades in Percentiles

		I agree	I'm undecided	I do not agree
I think that it is easier to develop materials for German language teaching with web-assisted applications.	n	26	6	0
	%	81.3	18.8	0
I think that Coedu makes it easier to develop materials for German language teaching.	n	32	0	0
	%	100	0	0

It is demonstrated in Table 7 that 81.3 % of the 32 students who took the pre-test agreed that it is easier to develop materials for German language teaching with web-assisted applications, while 18.8 % are undecided. In the post-test results, all 32 of the students agreed that Coedu makes it easier to develop materials for German language teaching. According to this result, it can be inferred that it is easier to develop materials for both web-supported applications and the Coedu platform.

A qualitative document analysis was performed in order to ensure and confirm the reliability of the data after the Likert-type evaluation. Qualitative data on material development that were obtained after the documentation analysis is presented in Table 8.

Table 8: Data Showing Qualitative Data on Material Development in Percentiles

Qualitative Data on Material Development

Question Areas	Coded Subheadings			
	Material Development	**Material Design**	**Level Conformity**	**Mean**
F	27	13	12	17.33
%	84.38	40.63	37.50	54.17

It is evident in Table 8 that while a mean value of 54.17 % was found in the study for the measurement of qualitative data, material development, material design, and level compliance were found to be 84.38 %, 40.63 %, and 37.50 %, respectively. These findings are supported by the student viewpoints provided below. Participant views reported in coded form will help to provide a more concrete explanation of the study's findings and the qualitative data.

> ***Student Statement E.Ö.15:*** *It is very successful and effective in presenting content to students when preparing exams or quizzes for the teacher. Content can also be exchanged with other teachers. It gives the student the chance to consolidate his knowledge with the mini-tests that he can find. He can prepare mind maps for his assignments and get support from other shared content.*
> ***Student Statement K.Ö.4:*** *I think it can help the teacher in designing effective materials.*
> ***Student Statement E.Ö.4:*** *Being able to easily prepare learning methods such as exam papers or mind maps online and benefiting from the convenience of technology as both a teacher and a student.*
> ***Student Statement K.Ö.25:*** *There are applications, activities, presentations, and videos suitable for all ages. We can ensure the permanence of the subject with various materials.*

5.   CONCLUSION and SUGGESTIONS

As mentioned in the introduction, it can be stated that technological developments and learning management systems facilitate language teaching, and this is also supported by the study's findings. Having examined one of the research questions, "Does the Coedu education platform contribute to increasing the quality of German language teaching?" in the light of the findings, it obvious that it has a positive effect on the participants. Quantitative and qualitative findings revealed that both web-assisted applications and Coedu application contribute to German language teaching compared to teaching German through traditional methods and enable participants to develop positive attitudes towards material development and design as well as basic language skills and partial language and research skills.

Depending on the findings related to material development, it can be concluded that the Coedu platform is quite effective in enabling learners to improve their material design and development skills.

It can be figured out that participants found co-learning, saving time, and motivation more effective for Coedu than other web-assisted applications. In this context, the findings also demonstrate that both web-assisted applications and the Coedu platform can be considered useful tools in material development. There can be several reasons for having a high rate of this data. However, some of the most important ones are learners' familiarity with computer and media-aided applications and the fact that such materials play an educational role while entertaining in foreign language education and teaching.

These findings are also consistent with those of Kaynar's (2019) study. Having conducted document analysis on the qualitative data and examined the findings related to the material development of the second graders, it is determined that the most coded titles are material development, material design, and level of conformity. It can be concluded that these findings support the quantitative data. Sezer (2011) listed the three most important advantages of the computer as speed, accessibility, and storage space. It can be argued that this situation strengthens the concept of accessibility derived from the findings. As a result of his research, Kol (2012) found that computer-assisted education is more effective than the traditional method, and its most distinctive feature is the noticeable differences in the concepts of time and space. The breadth of time and space within the findings of the research match this situation.

In line with these findings, the answer to another research question, "Would you prefer to actively use the Coedu education platform in German language teaching when you become a teacher in the future?" can be the Coedu platform, which supports lifelong learning. It can be said that the aim of the study is to improve the quality of education in German language teaching, which is also revealed by the findings, and to enable German learners and teachers to access resources on the internet more quickly. In light of the study's findings, opinions towards the Coedu education platform designed for pre-service German language teachers are positive, and it can be asserted that this platform will be beneficial for the teaching process, future studies, and students. The following suggestions can be put forward regarding the findings obtained:

Computer-assisted teaching and internet knowledge can be increased so that not only students in the field of teaching but also students studying in all language fields can adapt to technological developments faster and catch up with innovations in advance.

This study, which was designed to examine the use and benefits of the Coedu application, can also focus on different areas and contribute to further

studies. In cooperation with the Ministry of National Education and Teacher Training Institutions, a coordinated development and implementation phase can be initiated by introducing the program to language teaching departments (applicable and adaptable for all foreign languages) and encouraging its effective use with pre-service teachers and students. Thus, the advantages of the program can be spread to wider audiences, and deficiencies in the field of language teaching can be fulfilled.

For this purpose, it is necessary to collaborate with institutions and organizations that focus on language teaching and education, and development studies should be started as soon as possible.

The content of the program should be discussed with pre-service teachers and language learners at regular intervals (e.g., every 3 months), and it should be renewed and made more useful.

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