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A Techno-Innovative Approach to Visual Communication Design in Geography Teaching: Canva

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Abstract	Research Article

Communication using visuals such as maps, graphics and concept maps has an important function in geography teaching. For effective geographical visual communication design, these visuals must first have a successful design. While visual design was previously an activity that could only be done by experts in this field, the tools developed with the support of technology have enabled many more people to make these designs even without any training. One of these tools is the Web 2.0 tool called Canva. Research shows that the visuals in the resources used in the geography teaching process are either incomplete or inaccurate. For this reason, the ability of geography teachers to make visual designs with Canva can eliminate this problem. For this, it is essential for geography teachers to be aware of the capabilities of this tool in visual communication design. In this context, the aim of this study is to reveal how the web 2.0 tool named Canva can be used in the teaching process of a geography course with examples. In order to achieve this goal, a descriptive literature review was conducted and document analysis, one of the qualitative research method designs, was used. According to the results obtained from the research, it was determined that Canva contains many geographical visuals, and these visuals can be used in different dimensions of geography teaching processes. At the end of the study, suggestions were made regarding the effect of Canva on the success of visual communication in the geography teaching process.

Keywords: Canva, visual, visual communication design, technology, geography education

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Introduction

Even before the invention of writing, visuals had a very important function in human communication. Even after thousands of years, visuals continue to be an important part of human communication today. With the advancement of technology, the screen-based visual world has become the natural environment of today's young people (Onursoy, 2019). Any image created on these screens can be easily shared between people in different parts of the world who do not even speak the same language. Visuals are used effectively in advertising and marketing, media, IT, entertainment, education, and many other sectors. The common point of all of these sectors is that the target audience is people, and people use visuals as a tool to communicate. Visual communication is to create, develop, and evaluate a message based on visual images and to explore ways of visual communication within this framework (Bedir Erişti, 2021). Therefore, it can be said that the prerequisite for the successful realization of visual communication is the successful design of the visual through which the message is conveyed. At this point, the concept of visual communication design emerges. Visual communication design is the process of designing, programming, and presenting the visual message in accordance with its purpose. In a communication process with visual communication design, the visual that describes an event, phenomenon, or concept is produced according to a number of technical and aesthetic design principles in line with the characteristics, expectations, attitudes, and orientations of the target audience and used in interaction (Bedir Erişti, 2021).

One of the fields affected by technology is visual communication design. Thanks to the advances in this field, while it used to be a job that could only be done by people with interest and talent, today the benefits brought by technology have also caused transformations in the visual communication design process. Today, most people who are interested in this field can do visual design with Web 2.0 tools, digital drawing hardware, or artificial intelligence support. One of these tools is a web 2.0 tool called Canva. Canva is a visual design tool that allows users to create professional designs such as presentations, videos, logos, etc. without any experience (Koç, 2022). All visuals in the form of ready-made templates on Canva are created by experts working in this field. Canva is completely free to use for education, as it is all over the world, and is unlimitedly available to all teachers and students, including premium content and features (Canva, n.d.).

Considering that the basis of education is student and teacher communication, it can be said that there is a close relationship between visual communication design and education. Learning is an activity that takes place through the sense organs. One of the five senses is vision. The information perceived with vision is sent to the relevant part of the brain and made meaningful. Any negative situation in visual perception will cause students to experience problems in cognitive, motor, and social-emotional areas and may cause disruptions in the learning process (Aral, 2021).

According to Cüceloğlu, as cited in Mehrabian, visual messages make up a large part (55%) of the first impression in the first interaction, while this rate is 38% for auditory messages. Expressions describing the content constitute only 7% of the first impression. With the use of visuals in the teaching process, students are able to digest information in a way that suits their own learning style, provide students with the opportunity to relax when the pace of the teaching process is too much for the student, summarize complex information, processes, or relationships and transform them into a form that is easier to grasp, and positively affect students' perceptions of the course by eliciting strong affective reactions to the course (2002: 64).

Geographical visualization can be defined as the visualization of spatial issues and problems by using concrete visual presentations and using people's very powerful information processing abilities visually (MacEachren et al., 1992). The importance of visuals in the geography teaching process is quite high. These visuals can be maps, photographs, pictures, tables, graphs, or concept maps. Regardless of which teaching method and technique is used, it is not possible to successfully carry out the geography teaching process without being supported by visuals.

The aim of geography teaching should not be to overload information by using dense texts; visuals should be used to transfer more understandable, concrete, and permanent information (Akınoğlu, 2005). In many studies, it has been found that in geography teaching processes where visuals are used, students are more enthusiastic and actively participate in the process, and their academic achievement increases (Sekin & Ünlü, 2002; Coşkun, 2003; Eker, 2003; Tomal, 2004; Ulusoy & Gülüm, 2009; Sever, Budak, & Yalçınkaya, 2009; Demirkaya & Ayas, 2015; Demirkaya & Karacan, 2019). In addition, it is emphasized that there are significant deficiencies in terms of design and timeliness in visuals, which are already rarely included in many resources used in the geography teaching process, especially in geography textbooks (Demirkaya & Tomal, 2002; Sekin & Ünlü, 2002; Coşkun, 2003; Gümüş, 2004;

Kızılçaoğlu, 2013; Ünlü, 2016). With the constructivist approach based on the Geography Course Curriculum (GLP), which started to be implemented in 2005 in our country, teachers have to develop materials and design how to organize them visually in accordance with the learning outcomes and try them out in the geography teaching process (Artvinli, 2010). The results obtained from this and similar studies in the literature show that the use of visuals in geography teaching is not a preference but a necessity.

It is seen that students need to learn to learn visually, and teachers need to learn to teach visually (Alpan, 2008). Considering that both those who prepare the resources used in the geography teaching process and those who carry out the process are geographers, it is not difficult to conclude that there are some problems with the use of visuals in communication with students. At the root of these problems, it is understood that geography teachers do not have the necessary equipment related to visual communication design. One of the areas where today's technological development is reflected is in the capabilities of Web 2.0 tools. Canva, one of these tools, has a structure in which users can customize different visual resources according to their needs even without any training in visual communication design. However, there is no study on geography teachers' awareness of this technology or how to use it in the geography course teaching process. In this context, the aim of this study is to reveal how the web 2.0 tool named Canva, which brings a new perspective to visual communication design, can be used in the geography course teaching process with examples. In line with this main objective, answers to the following sub-objectives were also sought:

- What are the visual materials on Canva that can be used for different purposes in the geography teaching process?
- How to use and customize the templates on Canva in the design of the visuals to be used in the geography teaching process?
- How can interaction and collaboration be ensured in the design of visuals to be used in geography teaching on Canva?

Method

In this study, which aims to reveal how the web 2.0 tool named Canva can be used in visual communication in the process of geography teaching, a descriptive literature review was conducted and document analysis, one of the qualitative research method designs, was used. In qualitative research, methods such as interview, method, or document analysis are

used to collect data, and the findings are summarized in various ways (Cresswell, 2012). In this study, document analysis was used to determine the visuals that can be used in visual communication in the geography course teaching process, the problems experienced in the design of these visuals, and the solutions that can be developed by using the web 2.0 tool called Canva for these problems. According to Yıldırım and Şimşek (2018), document analysis is carried out by analyzing written materials that contain the information necessary to be obtained in line with the objectives of the research. In this study, the skills and outcomes in the Geography Lesson Curriculum (GLC) implemented in Turkey were examined, and then the resources on how to use Canva in visual communication design in the geography teaching process were examined. These resources were accessed from the case studies in the "Education" section of Canva. These case studies describe the experiences of educators from around the world with how they have used Canva in their teaching. Finally, the skill or outcome of how Canva will be used in visual communication was revealed with examples. The content analysis method was used to analyze the data. The findings were organized by considering the sub-objectives of the research (Yıldırım & Şimşek, 2018) and presented to the reader.
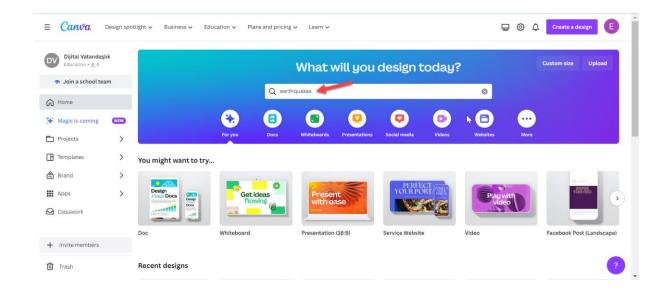
Findings

Findings Related to Visual Materials that Can Be Used in Geography Teaching Processes on Canva

Canva has hundreds of geographical images that can be used for geography lessons for very different purposes. The easiest way to access these images is to type the relevant keywords in the search bar. Located in the GLC "10.1.5. Explains the influence of internal forces on the formation process of landforms in Turkey. The relationship between faults, plate movements, and earthquakes in Turkey is given a place. For a geography teaching process where the acquisition of "Earthquakes" will be processed, all the results in different visual types can be reached by typing the keyword "Earthquakes" in the search bar on Canva (Image 1).
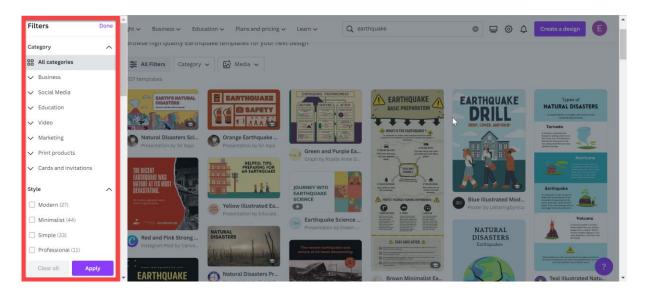
Image 1

Searching for Designs with the Help of Keywords Typed in the Search Field

There will be dozens of visual materials related to this keyword. These materials appear on the screen mixed according to their types. By using filters, the desired visuals can be easily found under headings such as style, theme, type, grade level, course, and subject (Image 2).

Image 2

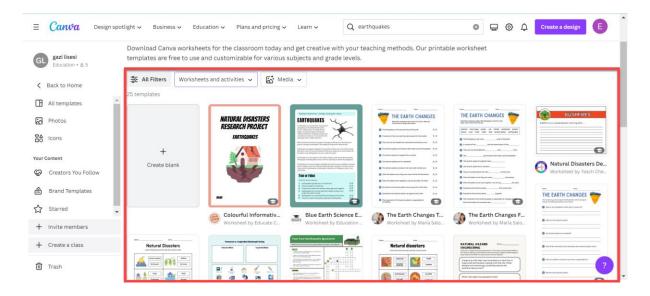*Accessing the Desired Images with the Help of Filters*

Under the education category, it is possible to access many visuals that can be used for different purposes in geography teaching processes. These resources can be used directly in the geography teaching process, or they can be customized according to the needs. For

example, posters or infographics about earthquakes can be hung on the classroom board to keep students connected with the subject outside the teaching process. Or, in-class or extracurricular activities can be done by using worksheets (Image 3).

Image 3

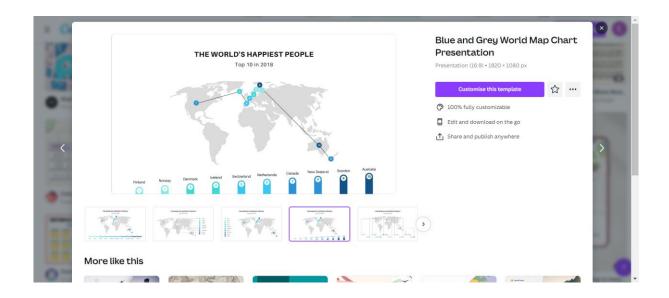*Visuals That Can Be Used as Worksheets on the Subject of "Earthquakes" On Canva*

Apart from these, it is possible to access ready-made presentations, picture cards, cartoons, lesson plans, calendars, and much more and integrate these visual resources into the geography teaching process.

Maps are perhaps the most important visual elements used in the geography teaching process. One of the basic geographical skills also included in GLC is "map skills." Map skills include determining location on the map, transferring information on the map, selecting a map suitable for the purpose, making calculations using maps, perceiving spatial distribution, interpreting the map correctly, and creating draft maps (GLC, 2018). Canva has hundreds of visuals that can be used to teach these skills to students. For example, in this section, blank maps related to the world and continents can be customized according to needs, transformed into different maps, and used in the geography teaching process (Image 4).

Image 4

An Example of A Map, A Type of Visual That Can Be Used in Geography Teaching on Canva
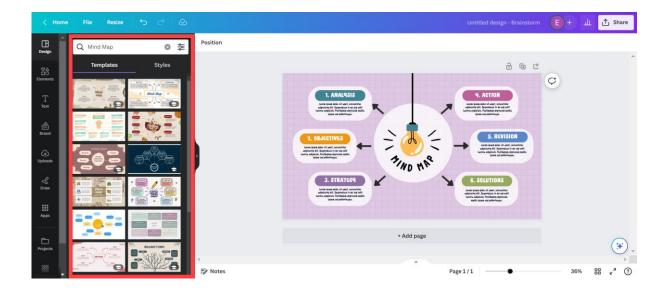
Another visual type available on Canva that can be used in the geography teaching process is concept maps. Geography provides easy recognition by naming the objects and substances it encounters while examining the subjects in its field (Turan, 2002). These names, called concepts, are also included in many sections of the GLC. For example, in the statement "The concepts of absolute and relative position are included," in sub-paragraph a of the learning outcome 9.1.5, "Makes inferences about the properties of time and place using the coordinate system,"; in the statement "Basic concepts of climate elements and factors affecting climate elements are included." in sub-paragraph a of the learning outcome numbered 9.1.11; in the statement "Basic concepts related to agriculture, animal husbandry, forestry, and fisheries are included." in sub-paragraph a of the learning outcome numbered 11.2.15 concepts are directly emphasized.

Knowing what these concepts mean and the relationship between them is a prerequisite for students to make sense of geographical events and phenomena (Sever, Budak, & Yalçınkaya, 2009). There are dozens of ready-made templates on Canva about concept maps, which are so important for the geography teaching process, and these templates can be customized according to the subject and used in the geography teaching process (Image 5). These templates can be easily accessed by typing "concept map" in the search section.

Image 5

An Example of Concept Map Templates on Canva That Can Be Used in Geography Teaching
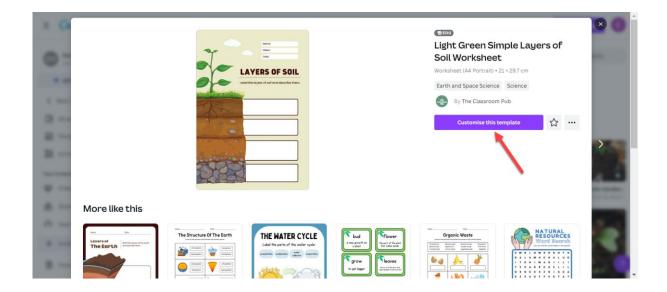
Findings Related to the Use and Customization of Templates on Canva in the Design of Visuals to be Used in the Geography Teaching Process

It is possible to customize the ready-made visuals on Canva in the form of templates in accordance with different needs in the geography teaching process or to make a design on a blank design page by using visual elements related to geography.

When the keyword "soil" is typed into the search bar on Canva to be used in a geography teaching process in which the learning outcome 10.1.12. in the GLC will be taught, it is seen that there are many different visual templates on topics such as soil layers, erosion, elements that make up soil, soil-plant relationship. The "Customize this template" button should be clicked to customize the elements that make up these images according to their needs (Image 6).
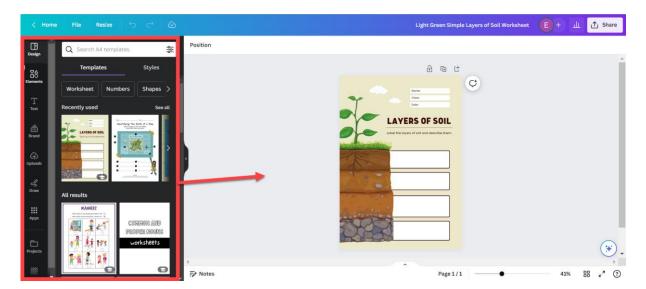
Image 6

Customization of A Visual That Can Be Used in the Geography Teaching Process in which the Soil Subject is Covered on Canva

In the customization screen, all elements that make up the ready-made template can be customized. For example, different designs can be applied, the design can be enriched by using hundreds of visual elements related to geography, effects and animations can be added to these elements, the body, color, font, and size of the texts can be changed, previously created templates can be applied to the design, different visuals from outside can be imported, drawings can be made on them, or the background can be changed. On Canva, not only ready-made templates but also designs can be made by starting from a blank page (Image 7).
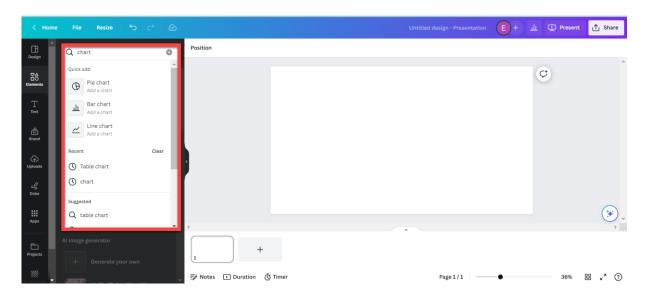
Image 7

Customization of A Visual That Can Be Used in the Geography Teaching Process in which the Soil Subject is Covered on Canva by Using Different Elements

One of the most important visuals used in geography teaching is graphics. One of the geographical skills given in the GLC is "The ability to prepare and interpret tables, graphs and diagrams". This skill includes selecting and classifying appropriate data, creating tables, graphs, and diagrams appropriate to the data, using and associating relevant photographs, creating cross-sections (such as plant and geology cross-sections), using tables, graphs, and diagrams in appropriate places, interpreting tables, graphs, and diagrams, and synthesizing by comparing tables, graphs, and diagrams (GLC, 2018). "9.1.11. Explains the formation and distribution of climatic elements." in the explanation in sub-paragraph c of the acquisition, "Tables and graphs are drawn using the data of the climatic elements in the place where they live and are associated with daily life." there is an expression. In addition, graphics can be used in the geography teaching process in many subjects, such as population, migration, and economic activities. Line, column, or pie charts can be easily created in Canva. For this, after selecting the elements section on the design page, the word "graphic" should be typed in the search section, and one of the desired graphic types should be selected. (Image 8).

Image 8

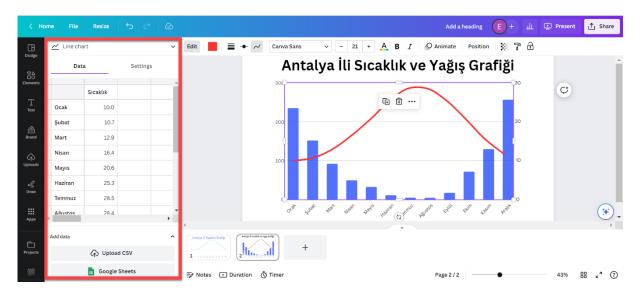*Creating Graphics to be Used in the Teaching Process of Geography Course on Canva*

In this section, temperature and precipitation graphs related to climate, one of the most important topics in the geography course, can be easily converted into graphs either by manual data entry or by entering data from various statistical institutions as a file. The color and format properties of the created graphic can be changed (Image 9). Apart from the climate topic, pie charts can be created showing the distribution of population by economic sectors

and the distribution of population in the historical process, the distribution of gases that make up the atmosphere, or various characteristics of developed and undeveloped countries. In addition, population pyramids, which are population graphs showing the status of the population from past to present and where many comments can be made, can also be created with the "Funnel Chart" feature on Canva. This easy preparation of graphs eliminates the dependence on graphs in existing geography resources and ensures that the most up-to-date data is reflected in the graphs.

Image 9

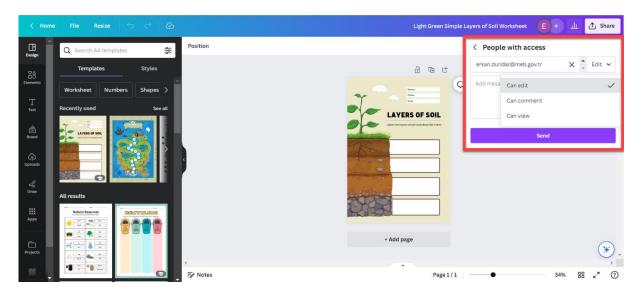*Customization of A Temperature and Precipitation Graph Created on Canva*

Findings Related to Interaction and Collaboration in the Design of Visuals to be Used in Geography Teaching on Canva

While designing a visual design in Canva, interaction and collaboration can be achieved with the participation of more than one person, either in real time or in different time periods, by giving access authorization. This access authorization can be in the form of editing the visual, commenting only, or viewing only (Image 10). This feature can enable different geography teachers to design visuals in collaboration, while students can work together on a geographical image using collaborative learning.

Image 10

Creating Interaction and Cooperation by Sharing An Image in Canva That Can Be Used in The Geography Teaching Process with The Student

Furthermore, on Canva, teachers can create different classes for their students (Image 11) and folders for different subjects within these classes and set the access authorization of students to these folders (Image 12).

Image 11

Creating Different Classes on Canva for Sharing Images to be Used in Geography Teaching
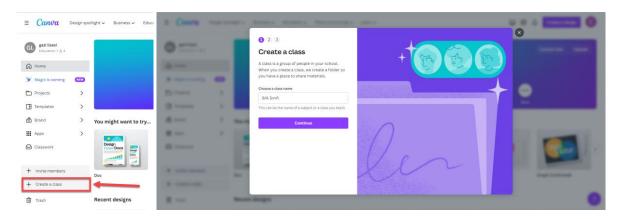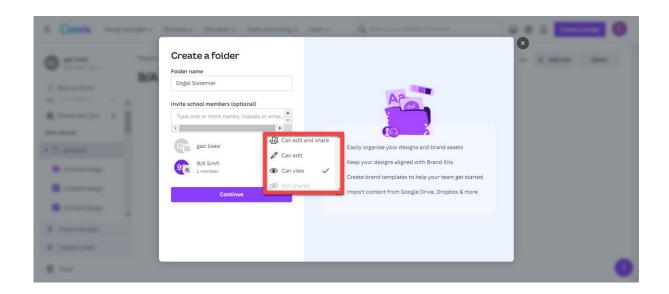

Image 12

Setting Student Access to Folders Created on Canva

The designs in these folders can be sent to each of the students in the class separately, as homework and feedback can be received. For example, a worksheet prepared on the topic "Atmosphere" can be sent to all students in the class or to the desired students with a note and assigned as homework (Image 13). In this case, a notification will appear on the student's profile, and the assignment details will be displayed (Image 14). The student can complete the assignment and send it back to the teacher with a grade (Image 15).

Image 13

Sending an Image to The Student as Homework to be Used as A Worksheet That Can be Used in the Geography Teaching Process on Canva
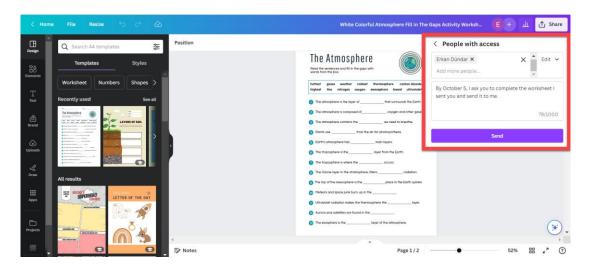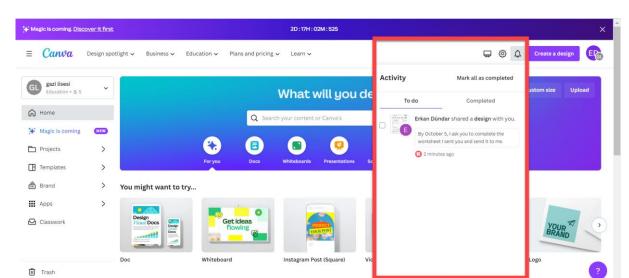

Image 14

View of the Assignment Submitted by the Teacher on the Student's Canva Screen

Image 15

Students do Their Homework and Send it to the Teacher

Visuals produced with Canva can be used in flipped learning to create student-teacher interaction. For example, each slide of a presentation created on Canva about migrations can be audio-recorded by the teacher and shared with the student in video format. Thus, after the student has knowledge about the subject at home, an inverted learning process will be created with different activities to reinforce the same subject at school (Image 16).

Image 16

Enriching A Presentation on Canva by the Teacher in the Context of Flipped Learning and Sharing it with the Student

Discussion and Result

Visuals are elements that appeal to the sense of sight, one of the five senses through which people perceive the outside world. The place and importance of visuals used in many areas of life in education have increased, especially with the integration of technology into education day by day. In geography teaching, especially the expression of abstract facts or geographical processes that cannot be experienced again with visuals, this contributes to students' better understanding of the subject and increases their interest in geography. However, it can be said that achieving these benefits at a high level depends on the professional design of the visuals to be used in communication. Professionally designed visuals stand out both aesthetically and functionally. For this, as Türker and Sözcü (2021:1880) state, geographical knowledge is needed to move between geographical spaces and find answers to the questions of where and how to go from one place to another. In order for this knowledge to be transformed into performance and capability, it is necessary to have geographical skills. The professional creation of geographical visuals, especially maps, graphics, tables, and concept maps, which have these features, is the first condition for successful visual communication in the teaching process. However, research shows that there are not enough visuals in geography course resources and that the existing visuals have deficiencies such as design or not including current data. The way to eliminate this problem is to enable geography teachers to design the visuals they need in their own fields. In the past,

228

the successful design of these designs required long trainings, but today, the tools that have emerged with the support of technology have minimized the need for this training. Now, professionally designed visuals are uploaded to some platforms and made available to users. One of these platforms is the web 2.0 tool called Canva. Canva has hundreds of maps, graphics, figures, concept maps, presentations, worksheets, and much more to be used in the geography teaching process. Thanks to this free-to-use tool, geography teachers can use ready-made templates at any stage of the geography teaching process, or they can easily customize these visuals according to their own needs. In this way, they can produce visuals suitable for their students' level, readiness, or learning style. In addition, it is also possible to produce visuals such as temperature and precipitation or a population pyramid, which are very important to include current data. In addition, thanks to its interaction feature, Canva can enable geography teachers to work in collaboration with their own classes or with the classes they will create from their students, thus ensuring that the geography teaching process is carried out in a much more efficient and successful way. Research also shows that learning using Canva for education is interactive, creative, collaborative, innovative, and interesting (Rahmatullah, Inanna, & Ampa, 2020; Bakri et al., 2021; Putra & Filianti, 2022; Wijayanti, 2022). It is also seen that the use of visuals produced with Canva in the educational process also increases students' academic achievement (Maryunani, 2021). Nurhayati, Machdalena Vianty, Medio Lailatin Nisphi, and Dian Eka Sari (2022) also concluded that after the Canva training they gave to teachers, their understanding of the application improved and they were able to design and produce learning media for different text types.

As a result, the integration of technology into geography teaching is inevitable in accordance with the characteristics of today's students, and geography teachers have to keep up with these conditions. Visual communication design in the geography teaching process can be realized much more effectively by using technology. One of the tools that enables this is the Web 2.0 tool called Canva. Canva is an advanced visual design platform that contains a large number of geographical images. These images can be customized according to the needs of geography teachers, and student interaction can be provided in this process.

Recommendations

The suggestions that emerged as a result of this research, which aims to reveal how the web 2.0 tool called Canva, which brings a new perspective to visual communication design, can be used in the geography teaching process with examples, are as follows:

- Geography teachers should be informed about the elements such as maps, graphics, presentations, figures, concept maps, etc. on Canva that can be used directly in visual communication in geography course teaching processes.

- Guides consisting of sample lesson designs about the use of Canva in geography teaching should be prepared and shared with geography teachers.

- In-service trainings on the effective use of Canva in the geography teaching process should be organized. With these in-service trainings, geography teachers who produce content for Canva should be trained.

- In higher education institutions that train geography teachers, the integration of platforms such as Canva into the teaching process should be added to the curriculum in courses on teaching material development.

- In cooperation between Canva and MoNE, it should be ensured that geography teachers create and upload ready-made templates to meet each outcome in GLP and that other geography teachers can use these visuals.

- Different studies should be conducted to determine the effect of Canva on students' academic achievement and attitudes in the geography teaching process.

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