Visual Arts Education on Concept-Based Learning [*]

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Abstract

The 21st century is marked by globalization, the questioning of norms, exponential information growth, and digital technology advancements. During this period, like in other domains, disciplines of visual arts have undergone significant changes in form and content. Individuals experience visual stimuli more frequently due to digital advancements. To navigate this information-rich landscape and foster critical thinking, there exists a growing need for abstract and diverse cognitive skills. In this context, conceptual learning emerges as a viable approach, offering abstract thinking and transferable knowledge to make sense of modern information. This study mainly aims to reveal how the Graphic Design Workshop V course, included in the undergraduate Art and Craft Education Program within the scope of visual arts education, can be conducted based on conceptual learning to develop conceptual thinking. The study adopted an action research methodology and was conducted within the undergraduate level Art and Craft Education Program, specifically focusing on the Graphic Design Workshop V course. Typography, a foundational aspect of graphic design, serves as a focal point for exploring concepts related to memory, culture, language, and aesthetics. The study involved eight participants enrolled in the course. Data collection methods included observations, semi-structured interviews, researcher and participant journals, personal information forms, self-assessment forms, graphic design works, design texts, and validity committee meetings. An inductive approach was utilized to analyze the collected data, which were then categorized into "Conceptual Teaching–Learning Process," "Reflections of Conceptual Thinking," and "Conceptual Design Practices and Reflections of the Concept on Design." The study findings indicated that conducting the undergraduate-level graphic design course through three-dimensional, concept-based teaching is feasible. Students demonstrated the development of conceptual understanding, the ability to establish conceptual connections, synergistic thinking, knowledge transfer, and inquiry skills. Additionally, students exhibited the application and

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interpretation of their designs within the conceptual framework during design projects. These results were further contextualized through a comparison with existing literature, and recommendations for future practices and studies were provided.

Introduction

In contemporary society, characterized by globalization, rapid changes, and the proliferation of information (Erickson, 1998). Traditional educational approaches fall short in adequately addressing the complexities of modern knowledge. There is a pressing need for educational methodologies that cultivate abstract thinking skills. Erickson argued that conceptual learning, which fosters abstract thinking and facilitates the acquisition of transferable knowledge, is well-suited to meet the demands of today's dynamic landscape.

Conceptual learning, as theorized by American educational scientist H. Lynn Erickson, represents a three-dimensional educational framework comprising concepts, facts, and skills. According to Erickson (1998), in a world where knowledge grows exponentially, traditional rote learning approaches prove insufficient. Instead, there is a call for a shift toward conceptual learning, enabling individuals to effectively interpret diverse knowledge and analyze complex social, economic, and political issues. As highlighted by Elnimer (2018), contemporary society places a premium on understanding knowledge rather than mere acquisition. In the 21st century, characterized by technological advancements and globalization, students are tasked with the challenge of applying knowledge across diverse contexts. Conceptual learning offers a valuable approach to effectively interpreting knowledge.

At its core, conceptual education revolves around concepts, which represent fundamental ideas sharing common attributes (Cevizci, 2005; Timuçin, 2004). According to Erickson (1998), a concept involves a cognitive process whereby objects or situations with similar characteristics are grouped into coherent categories. Concepts possess distinct characteristics that distinguish them:

- Concepts transcend temporal boundaries, enduring across all periods of human existence. For instance, the concept of "justice" persists from ancient civilizations to contemporary societies.

- Concepts have a universal nature. While minor cultural variations may exist, concepts generally maintain their essence across diverse cultures and societies.

- Concepts are abstract and comprehensive. Concepts exhibit abstract and inclusive traits, encompassing examples from various cultures, regions, and historical eras.
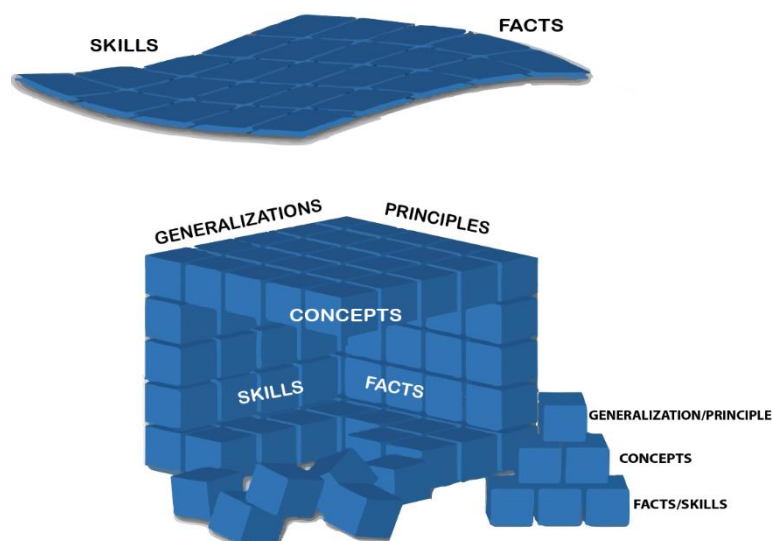

Figure 1. Two-dimensional and three-dimensional education model (Erickson & Lanning, 2014, p. 23)

According to Erickson and Lanning (2014), the traditional educational model operates within a two-dimensional framework, solely focusing on facts and skills. By contrast, conceptual learning introduces a three-dimensional paradigm integrating facts, skills, and concepts (Figure 1). Within the conceptual three-dimensional educational framework, concepts synergize with facts and skills, facilitating the conceptual interpretation of knowledge (Erickson & Lanning, 2014). Developing conceptual understanding concurrently enhances individuals' capacity for abstract thinking, diverging from mere rote memorization, and fosters deeper levels of cognition. Furthermore, owing to their timeless, universal, and expansive nature, concepts encapsulate diverse examples from different temporal, geographical, and cultural contexts, thereby enabling the contextual interpretation of knowledge.
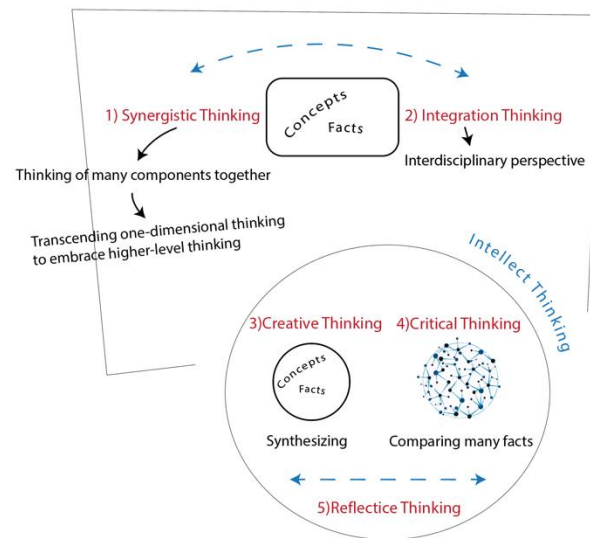

Figure 2. Ways of thinking that support the concept-based approach

According to Hilda Taba's perspective, fostering conceptual understanding enhances abstract thinking skills and cultivates deep thinking, thereby preparing individuals for the intricate dynamics of the 21st century (Erickson, 2008). Conceptual learning serves as a catalyst for the development of intellectual versatility, nurturing various forms of thinking, including synergistic, integrated, creative, critical, and reflective thinking (Figure 2). Primarily, conceptual learning operates in tandem with synergistic and integrated thinking. By transcending the mere accumulation of facts and skills, concepts facilitate higher-level synergistic thinking, where multiple components are synthesized holistically. Moreover, when concepts are intricately interlinked with facts and skills, leading to the transfer of information across diverse contexts, integrated thinking ensues. Conceptual learning fosters the developments of creativity and critical thinking. Concepts facilitate the analysis and synthesis of information across various temporal, geographical, and cultural contexts, thereby nurturing the emergence of novel ideas and fostering creative expression. In critical thinking, the comparison of information drawn from diverse contexts is guided by concepts, patterns, and connections, enabling a rigorous examination of facts. The creative and critical thinking processes are complemented by reflective thinking, where individuals engage in personal interpretation to stimulate reflective analysis (Erickson, 2007; Erickson, Lanning, & French, 2017). In summary, conceptual thinking promotes advanced intellectual engagement through the utilization of various cognitive skills.

Conceptual learning establishes a structured process of conceptual knowledge organization. The conceptual knowledge process is a systematic structure in which knowledge is organized (Erickson, 2007). This systematic process, depicted from bottom to top, encompasses facts and topics, concepts, generalizations, and principles (Figure 3). This structure facilitates the examination of specific knowledge contexts, culminating in abstract and transferable dimensions (Erickson et al., 2017). This knowledge process is elucidated as follows (Erickson, 2007):

- *Facts and Topics:* At this stage, knowledge comprises specific lived events and circumstances, such as particular individuals, locations, and times. Numerous diverse examples characterize this stage, yet knowledge remains nontransferable.

- *Concepts:* Concepts embody a generalized and abstract framework encompassing various examples from disparate places, times, and individuals under a unified category. This stage fosters the development of conceptual thinking skills, facilitating the interpretation of novel content within the conceptual framework.

- *Generalizations:* Generalizations denote common inferences and fundamental expressions derived from diverse examples without specific circumstances. Within a conceptual approach, generalizations hold significance as they can be applied across different times and places, enabling students to interpret knowledge within novel contexts.

- *Principles:* Principles articulate the foundational truths inherent to a particular discipline, such as the principles of design. They represent more established statements compared with generalizations (Erickson et al., 2017).
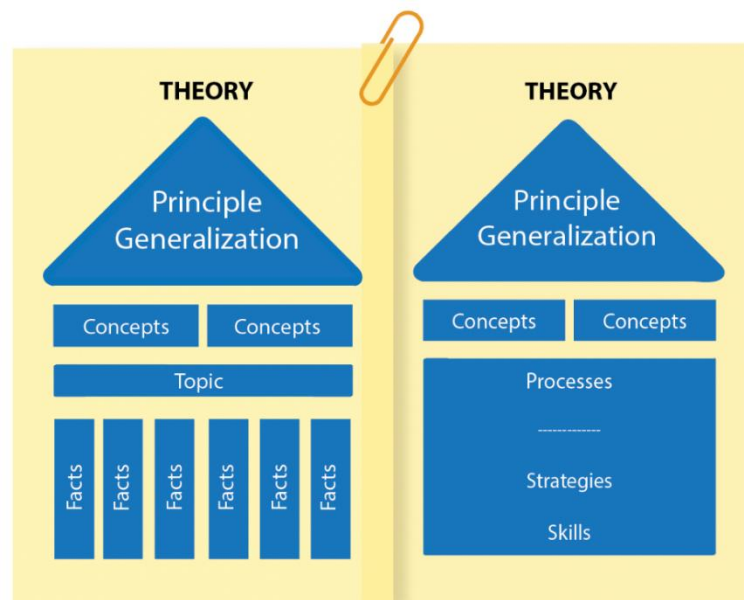

Figure 3. Structuring concept-based knowledge and process (Erickson, 2007, p. 28; Erickson & Lanning, 2014, p. 45)

While the content of each discipline may vary, they share a similar knowledge structure. However, disciplines like visual arts and performing arts follow a distinct process-based progression, unlike other disciplines. Lois A. Lanning devised a "structuring the process" diagram specifically for these disciplines within conceptual learning. This diagram arranges the process into skills, strategies, concepts, generalizations, and principles, progressing from the bottom to the top (Figure 3) (Erickson & Lanning, 2014). In process-based disciplines, conceptual understanding facilitates the transition of art production from the "doing" phase to the "understanding" phase, allowing for deeper exploration of content within the work (Erickson & Lanning, 2014). In this context, as noted by Freedman (2003) conceptual understanding within visual arts education serves as a valuable tool for interpreting the content of artistic practice.

Significant transformations in both form and content have characterized visual arts since the latter half of the 20th century. Traditional artistic mediums such as painting and sculpture have expanded into diverse forms such as performance art, installation, land/environmental art, and video art (Whitham & Pooke, 2018). Likewise, shifts in art content mirror these changes, with a heightened focus on social themes and the exploration of issues such as gender, politics, cultural and identity

matters, globalization, environmental concerns, popular culture, and media critique, often approached with an interrogative stance (Antmen, 2014; Whitham & Pooke, 2018). In this context, artistic practices have evolved into a form of "reading," wherein interpretation relies on cues rather than purely aesthetic enjoyment (Antmen, 2014). Consequently, beyond proficiency in technical skills, contemporary visual arts demand higher-order thinking abilities for both practice and interpretation. As emphasized by Gude (2007), Mayer (2008), and Freedman (2000), a mere formal comprehension falls short in modern visual arts education. Thus, curricula in visual arts education must encompass significant concepts and issues alongside formal elements. According to Freedman (2000), visual arts education should incorporate social perspectives on pressing topics such as the body, identity, ethnicity, and the natural environment, fostering individual awareness of themselves and their surroundings. Therefore, educational content that cultivates multidimensional thinking skills within visual arts education is of paramount importance.

Another crucial aspect of contemporary visuals is the accelerated circulation of visual content. Enhanced by advancements in digital technology, media tools, urban landscapes, public spaces, and museum exhibitions, individuals are inundated with intense visual stimuli. These visuals function as conduits of information, conveying messages reflective of specific cultures, beliefs, emotions, and thoughts (Freedman, 2003). Amidst a multitude of visual encounters, the ability to transfer knowledge to diverse contexts is pivotal in interpreting visuals (Dohn, 2021). Therefore, conceptual learning equips students with the capacity to transfer knowledge, facilitating the interpretation of visual information across various contexts.

According to Gude (2007) and Mayer (2008), an effective visual arts education curriculum should actively engage with societal issues, fostering an inquisitive and critical approach. Conceptual thinking, as articulated by Donham (2010), fosters an inquisitive and critical mindset. Given their inclusive nature, concepts encompass numerous examples from various times, places, and cultures. Consequently, students encounter diverse scenarios through conceptual lenses, prompting them to question, analyze, and interpret these situations. Conceptual inquiry within visual arts education cultivates critical thinking skills and aligns with contemporary perspectives on arts education.

Furthermore, conceptual learning serves as a catalyst for enhancing creativity within visual arts education, acknowledging creativity as a cornerstone of artistic education. Creativity is one of the fundamental elements of art education. Creativity represents a more comprehensive process, which, according to Doğan (2011), involves conducting research, comparing different and similar thoughts, synthesizing, and generating original ideas. Similarly, Katz-Buonincontro (2018) posited that creativity in art education revolves around the exploration of materials, ideation, and production processes. Zimmerman (2009) further underscored that creativity transcends singular skills, representing a complex and comprehensive phenomenon. Hence, contemporary creative visual arts education demands a broader spectrum of thinking skills to nurture creativity effectively. Conceptual learning plays a crucial role in fostering creativity within visual arts education by promoting conceptual thinking and diverse cognitive skills.

As noted by Sandell (2009), a narrow formalistic approach proves inadequate in comprehending contemporary art, necessitating the cultivation of varied thinking abilities. Consequently, there exists a pressing need to reassess visual arts education from a contemporary standpoint and develop instructional program content that encompasses a range of cognitive processes. Conceptual learning serves as a valuable tool in aiding students to qualitatively interpret and apply art practices by facilitating knowledge transfer, interpreting information across diverse contexts, promoting critical and inquisitive thinking, and nurturing creative thought processes.

Extensive research, both in international literature (Alley, 2018; Ampartzaki & Kalogiannakis, 2016; Burdick, 2018; Carson, 2007; Davis, 2018; Fair, 2014; Hyland, 2019; Kotsch, 2021; Nielsen, 2013; Walker, 2010; Walter & Compernolle, 2015; Wolkowicz, 2017) and Turkish literature (Bolat, 2016; Çakıroğlu, 2020; Kurt, 2019; Tokaç Kan, 2018) across various disciplines, has consistently demonstrated that transitioning to conceptual education presents challenges but yields significant benefits for student development. Indeed, while research on concept-based learning in visual arts education is limited, studies like Walker's (2010) doctoral dissertation titled "Conceptual Inquiry in Art Production: The

Possibility of Change with Art" provide valuable insights. Walker's study aimed to encourage high school students to question their identities through the exploration of concepts. Throughout this process, concepts such as political perspective and "us and them" were explored, leading participants to transform their thoughts into art by exploring the connections between their individual identities and those of others. At a domestic level, Çakıroğlu (2020) conducted action research focusing on concept-based application practices within basic design courses. The study revealed an increase in students' understanding of the relation between concepts and design. They began to perceive thinking and creating concepts as a form of visual language, leading to the development of their skills in visual culture and visual literacy. In this study, the Graphic Design Workshop V course within the undergraduate level Art and Craft Education Program was conducted based on the concept within the scope of visual arts education. Data were collected throughout this process, and the findings from this data were subsequently analyzed. It is anticipated that this research will provide valuable contributions to the field of visual arts education. The overarching goal of this study is to illustrate how the Graphic Design Workshop V course, an integral component of the undergraduate Art and Craft Education Program in visual arts education, can be implemented utilizing conceptual frameworks to cultivate conceptual thinking. In alignment with the overarching objective, the following questions were addressed within the Graphic Design Applied Arts Workshop V course:

1. How can the teaching–learning process be conducted based on concepts?

2. What are the reflections of conceptual thinking on students?

3. Which design practices can be associated with concepts?

4. How did students incorporate the concept into their design studies?

Method

Research Design

This study adopted an action research design, a qualitative research method widely used in the field of education. Action research is a systematic approach aimed at developing, refining, or addressing issues within educational settings by implementing interventions, collecting data, and evaluating outcomes (Gürgür, 2017; Johnson, 2015; Yıldırım & Şimşek, 2013). This study primarily aimed to enhance and refine the teaching–learning process within visual arts education. Thus, action research was employed as the chosen methodology to achieve this goal.

Action Research Process

The action research process was based on Mills' "dialectical action research spiral," comprising four main stages: indentify *an area of focus*, data *collecting, analyze and interpret data*, and *develop an action plan* (Figure 4) (Gürgür, 2017; Mills, 2003). The specific action steps undertaken in the research are outlined below:
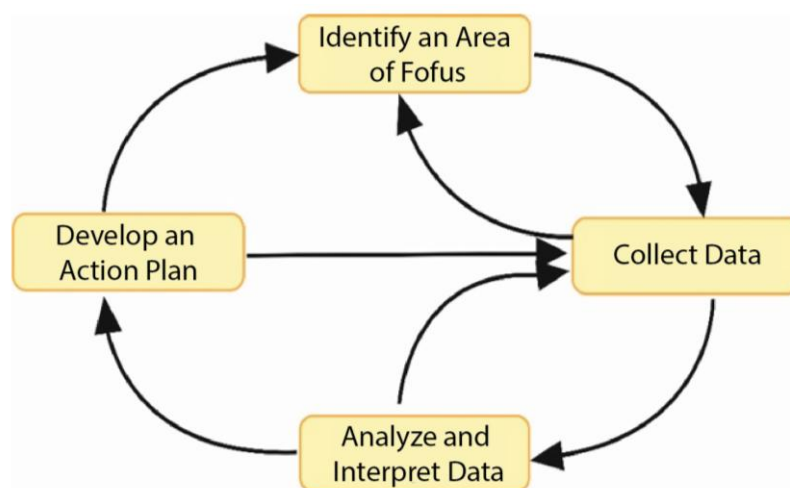

Figure 4. The dialectic action research spiral on Mills (Mills, 2003, p. 19)

Identify an area of focus: The focus area of the research was determined through a 10-week observation of 6 students enrolled in the Graphic Design Workshop V course within the Art and Craft Education Department of the Faculty of Education. Throughout the observation period, field notes and a researcher's journal were maintained. It became evident from these observations and journals that the students predominantly focused on visualization throughout the entire duration of the course. For instance, the researcher noted in their journal "*Students were interested in finding mythological stories in the first week. In the following weeks, they drew (12.03.2019, R.J.).*" Consequently, the identified area of focus for the study was the limited emphasis on technical skills within the course curriculum and the absence of diverse thinking skills. To address this issue, the literature was reviewed, leading to the integration of a three-dimensional learning approach based on concepts into the graphic design course within visual arts education.

Collection data: Throughout the research, four action plans were implemented cyclically. During the action plan process, data were collected through observations, semi-structured interviews, researcher and participant journals, personal information forms, self-assessment forms, graphic design works, design texts, and validity committee meetings.

Analyze and interpret data: Initially, a macro analysis of the collected data was conducted to gain an overview and identify general patterns and trends in the process. The macro-level findings were then presented to the validity committee members during a meeting, where their expertise and insights were sought. Based on the feedback and suggestions received from the committee, adjustments were made to the action plan, and subsequent iterations were implemented. After the action research was finalized, the data obtained were documented in the computer environment and the data were micro analyzed.

Develop an action plan: The development of action plans was guided by the conceptual learning approach. Initially, a thorough literature review was conducted, which led to the identification of *writing* as a fundamental concept suitable for integration into the Graphic Design Workshop V course. Additionally, concepts such as *memory, culture, language,* and *aesthetics* (İlhan, 2018; Jean, 2018; Tam, 2010) were selected for incorporation into the action plans. Four action plans were subsequently developed, each centered around one of these key concepts. Careful consideration was given to ensure that the action plans seamlessly aligned with the content and objectives of the Graphic Design Workshop V course. The developed action plans underwent a rigorous review process, including presentation to experts at the thesis monitoring meeting held every semester. Feedback and suggestions from the experts were incorporated into the action plans, ensuring their refinement and readiness for implementation. The action research was conducted within the framework of the Graphic Design Workshop V course offered by the Art and Craft Education Department. The study was conducted during the fall semester of the 2019–2020 academic year and spanned a duration of 12 weeks, organized into four distinct action cycles. Table 1 and Figure 5 present the action process:

Table 1. Action process timetable

Course: Graphic Design Workshop V (4th grade)			
Date: 02.10.2019–25.11.2019			
Duration: 4+4 (theory-practice)			
Process	**Concept**	**Event**	**Design**
1st Week	Writing (Introduction)	Historical process of writing	Typographic experiments
2nd Week	Writing (Introduction)	Meaning in typography	Typographic editing
3rd Week	Memory	Writing a memoir-based story	Autobiographical timeline (infographic)
4th Week	Memory	Concept map Presentation of designs	Autobiographical timeline (infographic)
5th Week	Culture	Watching the documentary "Language of Tattoo" and discussion	Intertextual page design based on local mythology
6th Week	Culture	Visit to the "Yunus Emre International Calligraphy and Typography Exhibition"	Intertextual page design based on local mythology
7th Week	Culture	Design application	Intertextual page design based on local mythology
8th Week	Culture	Concept map Presentation of designs	Intertextual page design based on local mythology
9th Week	Language	Homework: Finding concepts related to language from film and documentary Communication process diagram	Bilingual concept card design
10th Week	Language	Examining different writing styles	Bilingual concept card design
11th Week	Language	Presentation of designs	Bilingual concept card design
12th Week	Aesthetics	Beautiful writing workshop trip	Cultural poster design based on personal writing
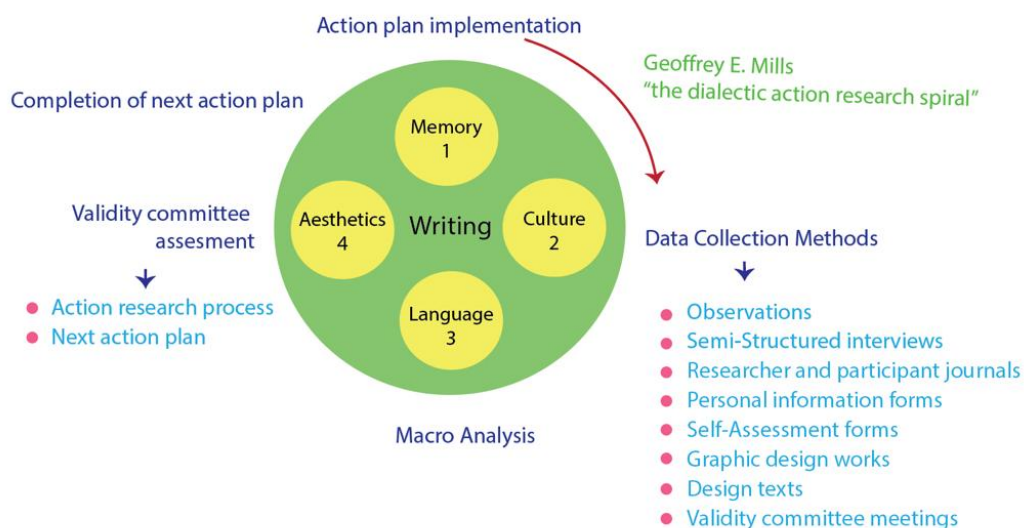
Figure 5. Action research implementation process

Research Setting

The study was conducted within the Graphic Design Main Art Department V class at the Faculty of Education, situated within a state university. The study spanned a period of 12 weeks, comprising 11 sessions held in the Graphic Design Workshop V on campus. Additionally, one session involved a workshop visit to a location outside the school premises. Observation data were collected through a camera placed in the setting.

Study Participants

The research included eight students enrolled in the Graphic Design Workshop V course. The selection of participants was influenced by the researcher's role as a faculty member in the relevant department and their involvement in teaching graphic design classes as an assistant instructor. The inclusion of these eight students aimed to ensure representation and diversity within the class. In the first week of the study, participants were briefed about the purpose, procedures, and data collection tools of the study. Written consent was obtained from each student through a "Voluntary Participation Form," ensuring their informed consent to participate in the study. Ethical considerations were prioritized throughout the research process, and the real identities of the participants were kept confidential, with pseudonyms used to refer to them in all documentation and reporting.

Researcher Identity

The researcher played dual roles in the research: as a faculty member and as a researcher. In the capacity of a faculty member, the researcher was responsible for planning and executing the 12-week class. This involved aligning instructional objectives with research objectives, devising teaching strategies to fulfill these objectives, preparing teaching materials, delivering instruction, providing feedback to students, and assessing outcomes based on predetermined criteria. Simultaneously, the researcher identified the problem situation and conducted a literature review, identified the setting and participants for the research, developed action plans for the purpose of the research, collected data with various data collection techniques during the implementation process, and conducted macro analysis of the data. The implemented action plan data were presented to the expert opinion, and the next action plan was started as a result of the feedback received. Following the implementation phase, all collected data underwent analysis using the NVivo 12 program. This software facilitated the systematic organization, coding, and interpretation of the data to derive meaningful insights and findings. Subsequently, the research findings were synthesized and conclusions were drawn based on the analyzed data. Finally, the research process was critically reviewed to identify any limitations encountered during the study.

Data Collection Methods

The research process involved the utilization of various data collection methods. These methods encompassed observations, semi-structured interviews, researcher and participant journals, personal information forms, self-assessment forms, graphic design works, design texts, and validity committee meetings. Data collection for the research occurred through four action cycles, each spanning a 12-week period. The subsequent section provides an elucidation of the data collection methods employed in the research.

Observations: Observational data were acquired via video cameras throughout the study. Cameras were strategically positioned within the research environment during the implementation phase. Prior to commencing the first class, clear instructions were provided regarding the purpose of the camera recordings and the measures taken to safeguard participants' privacy. Over the course of the implementation phase, 12 weeks' worth of camera-recorded data were gathered.

Semi-structured interviews: Throughout the research, semi-structured interviews were conducted concurrently with student designs. Prior to the interviews, open-ended questions were meticulously formulated. The interview questions were presented to three field experts and reorganized in line with the feedback and suggestions received and made ready for the interview. Participants were duly informed about the interview's purpose and its recording. The duration of the interviews ranged from a minimum of 16 minutes to a maximum of 41 minutes. A voice recorder was used in the interviews to prevent data loss. Semi-structured interviews were held at the conclusion of each action cycle, resulting in the acquisition of four sets of interview data by the study's conclusion.

Researcher and participant journals: Throughout the study, journals documenting the class experiences were maintained. Following each class, the researcher promptly recorded their reflections in a journal. Additionally, the final 10 minutes of each class session were designated for participants to maintain their journals. Consequently, upon the conclusion of the implementation phase, 12 weeks' worth of journal data were collected, comprising entries from both the researcher and the participants.

Personal information form: Demographic data of the participants were collected through a personal information form as part of the research protocol. These forms were distributed to the students during the initial class session of the application phase, and pertinent personal information was gathered accordingly.

Self-assessment form: Forms were devised for students to assess their individual progress throughout the application process. Through these forms, insights into students' learning experiences, motivations, preferences, and challenges encountered were elicited. Administered at the conclusion of each action cycle, these forms provided valuable self-evaluation data.

Graphic design works: Participants engaged in conceptual graphic design activities as part of the research. Their creations were collected at the culmination of each action cycle, offering a tangible representation of their design endeavors.

Design text: Throughout the implementation phase, participants were prompted to articulate their design concepts through written explanations. These design texts, elucidating the rationale behind their designs, were gathered alongside the corresponding graphic design works at the end of each action cycle.

Validity committee meetings: To uphold the validity of the action research, a validity committee comprising four domain experts was convened. Validity meetings convened at the conclusion of each action cycle served as crucial checkpoints. During these sessions, data pertaining to the action process and forthcoming action plans were presented to the committee members for review. Throughout the action process, four validity meetings were conducted, with proceedings documented via voice recording for reference and review.

Data Analysis

The data collected throughout the research process underwent inductive analysis. Inductive analysis, as described by Patton (2018) and Thomas (2006), involves the discovery and interpretation of themes emerging from the data. The analysis procedure followed a structure akin to Creswell's (2016) methodological stages, which are outlined as follows:

1. Initially, the data obtained during the research process were computerized, resulting in 297 pages of data. The data were organized in the NVivo 12 program and made ready for analysis.

2. Prior to embarking on micro analysis, written and visual data were comprehensively reviewed to grasp their overarching significance.

3. The analytical process mirrored the inductive analysis framework proposed by Maguire and Delahunt (2017). First, all datasets were meticulously coded and labeled within the framework of the research inquiries. Second, codes sharing similar content were aggregated under broader thematic categories. Third, these themes underwent rigorous review. Some themes were discarded, while others were consolidated, leading to the emergence of primary themes and sub-themes aligned with the research questions and existing literature. Data analysis was conducted using the NVivo 12 software.

To ensure the validity of the analysis process, independent parallel coding was undertaken with two domain experts. These experts possessed expertise in action research and thematic analysis. At the initial coding stage of the analysis, 60% of the raw data were presented to two field experts, and the data were coded independently with the experts. Following the initial coding phase, the codings from the three coders were compared, and similarities and discrepancies were scrutinized. Generally, a significant overlap was observed among the codings. The main themes and sub-themes derived from the analysis were once again subjected to expert validation. The analysis process concluded by reorganizing the themes in accordance with the feedback and suggestions received from the experts.

Credibility

In the conducted research, several strategies were employed to uphold credibility. These strategies are delineated as follows:

1. *Long-term immersion* in the field is pivotal in qualitative research, ensuring a comprehensive understanding of the context. A thorough investigative process was conducted, which included a 10-week observation period followed by a 12-week action research phase. As data patterns began to emerge, they were subjected to validation by experts, culminating in the conclusion of the action research phase.

2. Recognizing the iterative nature of problem-solving, *multiple action cycles* were implemented to iteratively refine interventions and foster development. In total, four action cycles were executed in the research.

3. To enhance data validity, a *diverse array of data collection tools* was deployed throughout the research process.

4. *Expert consultation* was solicited at various junctures of the study, ensuring robustness and reliability in the research outcomes. First, a thesis monitoring committee was convened to oversee the entirety of the research process, with research data presented to the committee at the conclusion of each period. Second, to fortify the credibility of the action research, a validity committee comprising domain experts was established. The data collected at each cycle were subsequently presented to these experts during validity meetings. Drawing upon the feedback provided by committee members, subsequent action plans were devised and implemented.

5. The researcher possessed experiential knowledge in qualitative research, data analysis, and NVivo lessons acquired during doctoral education. However, the researcher did not have experience in action research. Therefore, an expert with experience in action research was included in the validity committee.

6. In the study, *multiple coding* method was used to ensure validity in data analysis. Initially, 60% of the data underwent independent coding by three distinct coders. The resultant codings were subsequently compared and evaluated to ensure consistency and reliability.

7. Technological devices played a pivotal role in acquiring comprehensive data throughout the research. Workshop observations were meticulously captured using a video camera, and interviews were recorded using a voice recorder, facilitating detailed analysis and documentation. For data analysis, NVivo 12 software was utilized.

Ethical Measures

Ethical clearance for the research was secured from the "Social and Human Sciences Scientific Research and Publication Ethics Committee," documented with approval dated 06.11.2018 and numbered 103865. At the outset of the action study, participants were provided with comprehensive information regarding the research's objectives and scope during the initial class session. Written consent was diligently obtained from participants through the presentation of a voluntary participation form. Participants were explicitly informed of their right to withdraw from the research at any juncture upon request. Participants were informed that they could leave the research at any time upon request and that their identities would be kept confidential in the research report. Participants were assigned pseudonyms such as Aslı, Nihal, Ali, Ozan, Emine, Büşra, Sevgi, and Zeynep, which were culturally appropriate and reflective of their identities. Additionally, the location names were anonymized as "a university."

Findings

As a result of the analysis of the data obtained in the research, some findings were obtained. These findings were organized and presented under three main headings of Conceptual Teaching–Learning Process, Reflections of Conceptual Thinking, and Conceptual Design Practices and Reflections of the Concept on Design and corresponding subheadings (Figure 6).
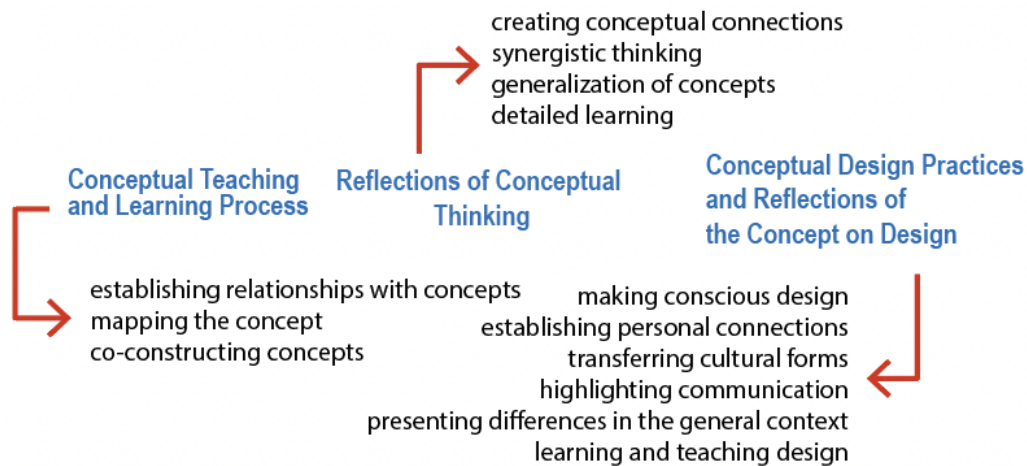

creating conceptual connections
synergistic thinking
generalization of concepts
detailed learning

Conceptual Teaching and Learning Process

Reflections of Conceptual Thinking

Conceptual Design Practices and Reflections of the Concept on Design

establishing relationships with concepts
mapping the concept
co-constructing concepts

making conscious design
establishing personal connections
transferring cultural forms
highlighting communication
presenting differences in the general context
learning and teaching design

Figure 6. Finding themes

Finding on Conceptual Teaching and Learning Process

Throughout the study, concept-based lessons were administered over a 12-week duration within the Graphic Design Workshop V course. Within the scope of the course, the concepts of writing, memory, culture, language, and aesthetics were addressed. These concepts were associated with students' subjective experiences, living environments, past experiences, individuals, and designs. The aim was for students to conceptually contextualize themselves, their surroundings, and designs. Additionally, various concept mapping activities were performed during the lessons to facilitate students' conceptual connections. The entire process was designed to be student-centered, allowing for active participation. Within this framework, students implemented and interpreted design projects. These findings were presented under subheadings such as establishing relations with concepts, mapping concepts, and constructing concepts together.

Establishing Relations with Concepts

Throughout the conceptual teaching and learning process, students actively forged connections between concepts and a myriad of subjects, situations, individuals, and designs. This endeavor involved students associating concepts with their subjective experiences, the contexts of their living environments, historical-social realities, influential individuals, and visual design works. The findings pertaining to these relations are delineated below.

During the practice, activities and designs centered around subjective experiences were undertaken during a two-week lesson focused on the concept of memory. In the initial week, a dialogue was initiated concerning students' past experiences, specifically related to the concept of memory. During this dialogue, students reflected on various situations such as photographs, visits to grandparents' homes, weather conditions, and music, all evocative of past memories. Following this dialogue, a storytelling activity based on memories took place. In this activity, a book was placed on the table, and students were asked to write a story based on their memories. After completing the story, students were asked to explain the connections they made with the past. Aslı articulated her experience as follows: *"When I was composing the story, I aimed to draw from my own past. The yellow book served as a catalyst for me. I merged the two elements and crafted a narrative. (I.1)"* Additionally, she remarked, *"We formed groups using the yellow book and established a connection with our past (S.J.)."*

The design process, rooted in subjective experiences and centered on the memory concept, unfolded through the implementation of the "autobiographical timeline" design. Through this creative endeavor, aimed at encapsulating personal memories within the framework of collective social memory, students conveyed their individual recollections through their designs. Nihal articulated, *"We're crafting a timeline, essentially creating our own personal chronicle. As we delve into our memories while crafting, we're trying to recollect and encapsulate our experiences (I.1)."* Similarly, Ozan reflected, *"Memory is akin to harboring our recollections within ourselves. When reflecting on my own timeline, I documented whatever memories surfaced when I closed my eyes. I recorded events that had left an indelible mark on my life. Hence, I believe memory revolves around these individual recollections (I.1)."*

The conceptual teaching–learning process was intimately linked with the environments where it unfolded. Activities revolving around the concept of culture were tailored to resonate with students' places of residence. For instance, during the initial class session, cuisine native to each student's place of residence was sampled, fostering a dialogue that bridged culture and locale. As part of a design activity aligned with the culture concept, students were tasked with creating a page inspired by mythological narratives from their respective hometowns. In this context, the design endeavor was intricately intertwined with cultural elements. Students mentioned that they discovered new information about their cultures during this process. Sevgi expressed, *"Exploring my culture through design was a rewarding experience; typically, I don't delve into my cultural background, so this study provided me with the opportunity to do so (S.J)."*. Likewise, Ali shared, *"It was enlightening to discover aspects of my heritage that I wasn't previously aware of. For instance, I learned about the former name of the Dardanelles Strait and unearthed a story tied to our locality (I.2)."*

During the conceptual teaching and learning process, concepts were intricately linked with historical–social realities. In the initial week of practice, students delved into historical information pertaining to writing, including its evolution and various writing styles. Subsequently, in the lesson exploring the culture concept, students viewed the documentary "The Language of Tattoos," which provided insights into cultural practices from diverse perspectives. To kickstart the practice, an informative presentation elucidating the concept of writing was delivered, laying the groundwork for further exploration. In this context, the nature of writing, its functional role, and its developmental trajectory from pictorial representations to alphabetic systems were scrutinized and deliberated upon. Additionally, the impact of writing on various civilizations was explored and discussed. The researcher documented this instructional process in their diary as follows: *"During the presentation, I illustrated the evolution of writing from pictorial representations to alphabets. I provided information about its abstraction from pictorial origins and showcased various historical writing systems to enhance students' visual cultures"* (R.J., October 2, 2019). During this process, students conveyed their comprehension of the evolution of writing. Aslı articulated her insights: *"I had never considered the origins of writing before. I now have a clearer understanding of its evolution from symbols to its contemporary form (I.1)."*

Regarding the cultural aspect, the initial class focused on the concept of culture entailed the screening of the documentary "The Language of Tattoos" in the classroom. This documentary offered insights into the traditional tattoo culture prevalent in the Southeastern Anatolia Region through oral narratives. It explored the historical evolution of tattoos, the motivations behind getting tattoos, prevalent tattoo symbols, and the contemporary significance of tattoos. Following the documentary screening, a discussion environment was created within the framework of pre-prepared questions, and the tattoo tradition was discussed within the framework of history, gender, religion, ethnicity, symbols, and the meaning of tattooing today. As a result of this activity, students articulated their understanding of the tattoo tradition within the framework of culture, tradition, civilization, and intercultural interaction. Nihal remarked, *"The documentary we watched had strong cultural relevance (I.2)."* Ozan reflected, *"Individuals who undergo tattooing essentially carry their cultures with them, disseminating and sharing them with others. The symbols adorning their bodies represent their cultural heritage (I.2)."* Additionally, he noted, *"The documentary underscored that tattooing is deeply entrenched in tradition, with various civilizations practicing it as part of their cultural heritage (I.2)."*

During the conceptual teaching–learning process, the concept was linked with expertise through a visit arranged within the Aesthetics course. Students had the opportunity to visit the workshop of Özdemir Şenova, a seasoned calligrapher with 37 years of experience in calligraphy and calligraphy studies. This visit aimed to foster a connection between writing and aesthetics by exposing students to Şenova's expertise and insights in the field of calligraphy. During the visit, Şenova imparted insights into various dimensions of calligraphy, introducing materials and elucidating connections between formal language and meaning while emphasizing its significance. A segment of his presentation is outlined below:

> *Firstly, we begin by sketching lines with a pencil. When executing calligraphy, our writing style adopts an italic form. It's essential to maintain a 45-degree angle both in hand positioning and penmanship (demonstrates italic writing). The pressure applied determines the overall appearance of the alphabet; exerting firm pressure yields bold strokes, while a lighter touch produces softer lines. Notably, mistakes in calligraphy are impermanent, as they vanish upon correction (illustrates the formation of various letters). As the pen thickness varies, we observe subtle bends in the lettering. Premature rotations result in a cramped appearance, akin to someone leaning on the letter. That's why precision is paramount in this practice." (C.V.R., 12.25.2019)*

During this process, students engaged in direct interaction with Şenova, gaining firsthand experience with the materials and techniques of calligraphy. Additionally, they visited Şenova's workshop situated within a historic inn, where they examined works under Şenova's guidance. Upon concluding the visit, students expressed their appreciation for the formal knowledge acquired about calligraphy, familiarity with various materials, and awareness of cultural nuances. Emine shared her reflections: *"I was unaware of the intricacies of italic writing. I learned about the significance of the three-to-five intervals and the intricacies of serif writing (I.4)."* Similarly, Zeynep remarked, *"I had inquired about Zamzam water and its significance. Honestly, it felt distinct. The addition of silk to the paint in the materials was quite remarkable (I.4)."* Aslı commented, *"I discerned the disparities between Turkish calligraphy and that of other cultures. I came to understand that we tend to favor italic writing, which is adopted for its enhanced legibility. Additionally, I observed that foreign scripts exhibit a slightly more dynamic quality (I.4)."*

In the conceptual teaching–learning process, art and design studies were contextualized and implemented. Within the memory concept, students explored the Masumiyet Museum as a manifestation of personal memory. Additionally, they engaged in a design application titled "Autobiographical Timeline," enabling them to encapsulate their personal memories visually. Transitioning to the culture concept, design studies grounded in cultural themes were explored, complemented by an organized gallery visit. An excerpt of dialogue from the lesson discussing the designs explored within the culture concept is presented below:

> *Researcher: How did the designer encapsulate the culture in this design? Firstly, what associations does this emblem evoke for you?*
>
> *Sevgi: It brought to mind the trajectory of the sun, akin to a sundial. Additionally, it resonates with the aesthetic of stained glass windows found in ancient rose windows.*
>
> *Emine: I concur. Particularly given its connection to Bursa.*
>
> *Zeynep: It invoked thoughts of Islamic symbolism.*
>
> *Emine: That could be due to the prominence of mosques in the region (C.V.R., 13.11.2019).*

In connection with the concept of culture, students engaged in a design application where they created page designs inspired by mythological stories from their respective hometowns. Sevgi shared her insights, expressing that she acquired a deeper understanding of integrating culture into design throughout this process. She remarked, "*Throughout the course, I learned the significance of cultural representation in designs and how to incorporate cultural elements into my design work (S.A).*" In the concept of language, students embarked on a design project centered around bilingual concept cards, elucidating the concept and its corresponding meaning. As for the concept of aesthetics, students delved into the works of traditional and contemporary calligraphy artists, complemented by a workshop visit. As part of a design application, students crafted cultural poster designs integrating their own calligraphic expressions within the realm of minor aesthetics.

Mapping the Concept

During the concept-based lesson process, various concept map activities were conducted within the proposal of the validity committee meeting dated 04.11.2019. The suggestion on this issue was "*Use also the activities used under concept-based learning. For example, creating a concept map (H.Deveci., V.C.M.).*" In this direction, general-to-specific, finding concepts from film-documentary, fishbone and communication process diagram concept map activities were included in the action plans (Figure 7). The findings pertaining to these relations are delineated below.
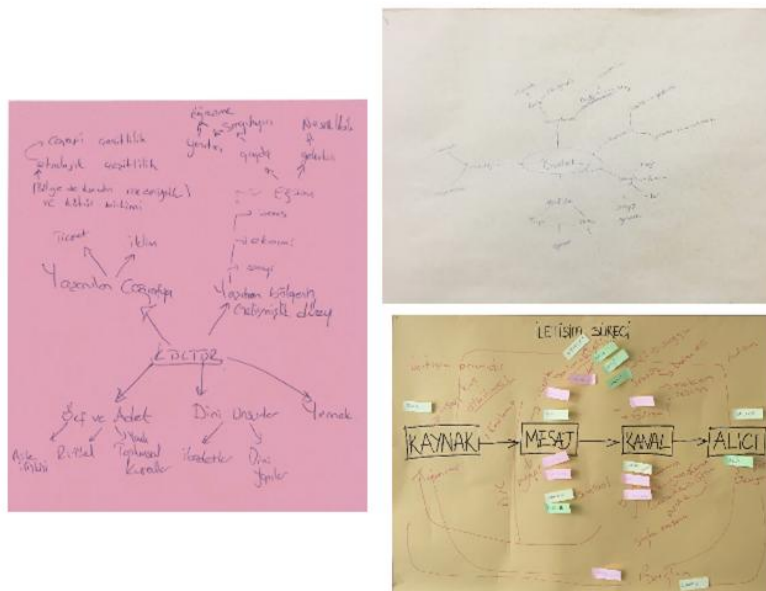

Figure 7. Examples of concept maps

In the last lesson based on the concept of memory and culture, a general-to-specific concept map activity was applied. Concept map activities were performed in pairs or groups of three. After the concept maps were completed, students were asked to express the connections they made. An excerpt of these statements is presented in the following dialogue:

Sevgi: I wrote memory as remembering, technology, memory, imagination, and the past.

Researcher: So how did you make connections?

Sevgi: When we think of memory, the first thing we all think of is remembering. We put remembering. We put the past. Researcher: How did you interrupt the remembrance?

Sevgi: As memories and emotions. Her memories are diaries and photographs.

Researcher: How is he connected to them?

Sevgi: Memories, photographs, and a diary came to mind. Because I write daily. Memoirs and diaries are the places where we keep our memories. Emotions also come through us when we remember emotions. Others are happiness, love (Memory concept map, C.V.R., 30.10.2019).

At the end of the activity, the students stated that they started with the most general, simplest concept and moved toward the specific while making their concept maps. "*First of all, when we talk about culture, we usually write about the past. The simplest thing that came to my mind was the past (C.V.R., 27.11.2019).*" Zeynep added, "*We created general headings under the concept of culture. It goes from general to specific (C.V.R., 27.11.2019).*" Aslı described the process of creating a concept map as follows: "*We first evaluated them as main headings. We divided them into art, religious aspects, environment, family, education, then thoughts, history and politics (I.2).*"

In the lesson on the concept of language, the activity of finding concepts from movies and documentaries about the concept of language was realized. For this activity, students were asked to find 10 concepts related to language from the movie "Arrival" and the documentary "Whistling Language" before the lesson and were asked to express the concepts they found in the lesson and their relation with language. At the end of this activity, it was observed that students were able to interpret the movie they watched within the framework of the concept of language. As an example of this situation, Emine established a relation between language and symbols and explained this relation with the words as follows: "*We already see symbols as a means of communication, a language in the movie we watch (I.3).*"

Fishbone and communication process diagram concept map activities were realized in the concept-based lesson process. In the lesson based on the concept of culture, students were divided into pairs. In groups, students first created a concept map from general to specific. Second, the text "Objectives of the Visual Arts Education Program" was distributed to the students. They were asked to associate the concepts in the first concept map with the objectives of the visual arts education program. After the associations were made, the fishbone map was hung on the board. Students were asked to express the concepts and items they matched. An excerpt of these statements is presented in the dialogue below:

Researcher: Each group name one concept and say which one it matches? (First awn, Emine-Sevgi explains.)

Emine: We can say this: Use Turkish correctly, beautifully, and effectively.

Sevgi: We associated it with writing.

The bard: We linked it to language.

Büşra: Education.

Zeynep: So we wrote education.

Büşra: We thought it would be education. To learn something.

Emine: Alfabe.

Sevgi: Since it is written in Turkish, we associated it directly with writing. We associated it with writing because of the alphabet.

Emine: Because the writing we use is unique to us (C.V.R., 27.11.2019).

At the 29.11.2019 validity committee meeting, it was suggested that the concept of communication should be included in the language concept action plan. This suggestion "*I think look at communication rather than language. Communication, what we call language, what we call visual language, what we call speech (T. Ünalan. V.C.M.).*" Within this proposal, the concept of communication was included in the action plan, and the communication process diagram activity was realized.

In the communication process diagram activity, a communication process diagram including the concepts of source, message, channel, and receiver was prepared and hung on the board in the lesson. Students were asked to associate and match the concepts they found in the film and documentary with the concepts of communication process and express the relations they established between the concepts (Figure 7). An excerpt of these statements is presented in the dialogue below:

Researcher: The source is the person who initiates the first communication. The person says something, and what they say has a message. The message has both content and structure. What might the message consist of in terms of language?

Sevgi: From the spokespersons

Emine: There was a symbol.

Nihal: Talking, for example, exchanging information.

Emine: There is also translating from the differences between languages. It may have an effect on the message.

Zeynep: Body language is also a message. You can also use body language to convey a message (C.V.R., 04.12.2019).

In the researcher's journal, reflections on the Communication Process Diagram activity were recorded as follows: *"Students effectively articulated their concepts during the activity. In the message section, we observed the emergence of related concepts such as code and symbol, as well as social concepts like time and culture. Occasionally, concepts were placed under other concepts within the process (R.J. 4.12.2019)."* Upon concluding the activity, students expressed their understanding of the distinctions and connections between concepts. Zeynep conveyed this comprehension by stating, *"Initially, sound and symbol appeared to be closely related, prompting us to group them all under the language category. However, as we delved deeper, we realized subtle differences and began to differentiate them. For example, the symbol was under the category of message. I actually thought it was under channel (I.3)."* Emine added, *"I noticed that we began to contemplate the intricacies of the words we had written and their associations with language in greater detail. For instance, while we initially linked concepts like life, memory, and culture to language, we started pondering their specific relationships and functionalities within the linguistic context (I.3)."*

Co-constructing Concepts

In the conceptual learning process, activities were planned in a student-centered manner, ensuring active participation of students and the creation of a collaborative workshop environment. During this process, group work was conducted, students were encouraged to present their knowledge, multiple perspectives were obtained, and students actively participated in the process. These findings are explained below.

In the conceptual learning process, group activities were carried out, including storytelling and concept mapping tasks. Students were divided into pairs or trios to collaborate on these activities. Upon completing the tasks, each group shared their insights within the workshop environment. Students remarked that through group work, they exchanged ideas, gained additional perspectives, and broadened their thoughts. Nihal expressed appreciation for the diversity of ideas by stating, *"It was beneficial to hear the perspectives of other classmates as we worked together. It broadened our understanding to consider their viewpoints too (I.1)."* Emine reflected on the expanding nature of group collaboration by noting, *"As we worked on the concept map, our group's collective thinking gradually expanded (I.1)."*. Similarly, Ozan found working with peers enjoyable by stating, *"Collaborating with friends was not only enjoyable but also enriching. It enhanced our learning experience (I.1)."*

In the conceptual learning process, deliberate efforts were made to enrich the instructional environment with diverse examples and perspectives. Students were actively encouraged to share their ideas and thoughts. To facilitate this, various activities and design studies were conducted within the workshop. Certain assignments were presented via the WhatsApp group. During concept mapping activities, students were initially prompted to display their concept maps on the board and articulate the connections established by each group. Following these presentations, students expressed appreciation for the exposure to different conceptual relationships. Ozan articulated his observations by stating, *"It broadened our perspective. While we may have approached the memory concept in a certain manner, observing the diverse approaches taken by other groups made us reconsider and think, 'Ah, there could*

be alternative interpretations that also fit within the concept' (I.1)." Nihal remarked on the cultural exchange facilitated by this process by noting, *"We had the opportunity to learn about various cultural elements from each other (S.J.)."* Second, students presented the design studies they had created themselves in the workshop environment. To facilitate this, students projected their design studies onto the screen and provided explanations regarding their content and rationale. Throughout these presentations, students encountered numerous design approaches within graphic design presentations, leading to fruitful exchanges of ideas. Emine reflected on the diversity observed in the card designs by noting, *"Although we all worked on card designs, each one had its own unique style. It was only through presentations that we truly appreciated the breadth of creativity among us (I.3)."*. Similarly, Ali emphasized the value of this exchange by stating, *"Reviewing each other's designs allowed us to gain inspiration and insights (S.J.)."* Third, a WhatsApp group was established for the lesson, serving as a platform for the dissemination of worksheets and sample artist studies assigned as tasks.

A multitude of perspectives emerged through active participation and knowledge sharing in the conceptual learning process. Each student contributed their unique viewpoint shaped by their cultural background and individual experiences, enriching the learning environment. Ali demonstrated his passion for technology by incorporating it into his concept map by expressing, *"I find great enjoyment in exploring concepts related to technology (I.1)."* Additionally, he associated technology closely with memory by remarking, *"When I think of memory, technology is the first thing that springs to mind (I.1)."* Similarly, Emine revealed her fondness for nostalgia within her concept map by stating, *"My focus revolves around memory, recollection, and preservation. Additionally, I enjoy collecting sketches and preserving memories, much like many others (I.1)."* Students further conveyed their appreciation for encountering diverse perspectives through shared activities. Sevgi succinctly summarized this diversity by stating, *"They categorized differently, offering varied views (I.2)."* Emine echoed this sentiment by noting, *"I also noticed the presence of different perspectives. For instance, in our exploration of memory, everyone approached it from distinct angles (I.1)."* She further elaborated, *"As I observed the group, I noticed that while some focused on the concept of photography, others explored history from various angles. I found this aspect intriguing; it hadn't crossed my mind at that moment. It's the beauty of different perspectives (I.1)."* Büşra contributed to the discussion by acknowledging, *"There were individuals who demonstrated remarkable creativity, while others delved into reflections on the past. These were perspectives that hadn't occurred to me previously (I.1)."*

In the framework of the conceptual learning process, active learning techniques were integrated into the lesson procedures, aligning with the expert advice provided by the validation committee. This recommendation was mentioned in the researcher's journal as follows: *"Ahmet Saban suggested that I refer to the sections on active learning and conceptual learning in the book titled 'Teaching–Learning Process' (R.J., October 15, 2019)."* Subsequently, activities outlined in the action plans were crafted with a focus on student-centered, active learning methodologies. In this regard, activities such as storywriting, concept mapping, documentary analysis, and workshop visits were meticulously prepared to emphasize active learning techniques. For instance, a documentary activity titled "Language of Tattoos," centered around the culture concept, was specifically devised as an illustrative example of this approach. In this activity, eight questions were prepared and distributed to students during the lesson, with instructions to take notes while watching the documentary. After viewing the documentary, students shared their questions and answers one by one, inviting input from their peers. This process ensured active participation from each student, fostering engagement and interaction throughout the lesson. At the conclusion of the activity, students expressed their satisfaction with the level of engagement and interactivity. Zeynep described the dynamic nature of the discussion by stating, *"Following note-taking, we engaged in lively discussions and brainstorming based on the documentary content. Everyone contributed their ideas (S.J.)."* Sevgi emphasized the inclusive nature of the workshop environment by noting, *"Everyone actively participates, contributing to a lively and interactive atmosphere where questions are encouraged and the focus remains on the participants (I.4)."* Ali echoed this sentiment, highlighting the collaborative nature of class activities, *"In every activity, the entire class actively interacts, fostering both dialogue and discussion (I.1)."*

Findings on Reflections on Conceptual Thinking

Throughout the conceptual teaching and learning process, concepts were intricately linked with diverse topics, leading to the creation of numerous concept maps and graphic design studies. The analysis of the data gathered indicated that students successfully cultivated conceptual thinking skills. These findings were categorized and presented under the subheadings of creating conceptual connections, synergistic thinking, the universality of concepts, and in-depth learning.

Creating Conceptual Connections

During the conceptual teaching process, various concept mapping activities were organized to facilitate the exploration of conceptual connections. During these activities, students, either individually or in groups, constructed semantic networks centered around the main concept, establishing links between the main concept and various related ideas. As an illustrative example of these connections, Sevgi forged associations between memory and related concepts such as the past, memories, and emotions on a concept map centered on the concept of memory. She elucidated this relation as follows: *"We included the past because memory is intrinsically linked to our past experiences (C.V.R., 30.10.2019). Memories are akin to our personal photographs, and the notion of diaries resonated with me personally as I maintain a diary. Diaries and journals serve as repositories where we capture our memories (C.V.R., 30.10.2019). Additionally, emotions are deeply intertwined with our memories, as they originate from within us. Furthermore, others may also experience similar emotions such as happiness (C.V.R., 30.10.2019)."* In the class focused on the concept of culture, a concept map progressing from general to specific was developed. In this concept map, Büşra and Nihal linked culture to various cultural elements, factors constituting culture, and the concept of cultural diversity. Nihal articulated their perspective as follows:

> We connected culture to a multitude of components, including customs and traditions, religious elements, regional influences, developmental levels, geography, and cuisine. Regarding religious elements, we considered practices such as prayers and the presence of religious structures like mosques and churches within a region. Additionally, Buddhist statues were acknowledged as significant cultural symbols. Rituals, likewise. Ceremonies. Cemeteries and gravestones were also noted. Within customs and traditions, we recognized the importance of family dynamics and unwritten societal norms, which significantly shape how we live and our cultural identities. Moreover, we explored the impact of trade on culture, as trade interactions between regions can lead to cultural exchanges and influences. Factors such as proximity to the sea, geographical distance, and climate were also acknowledged as influential variables. For instance, individuals living in equatorial regions experience vastly different lifestyles and attire compared with those residing in polar or temperate climates. These diverse experiences contribute to the richness and complexity of cultural diversity. (C.V.R., 27.11.2019).

In the class focusing on the concept of language, students were tasked with identifying 10 concepts related to language from films and documentaries, with an emphasis on establishing conceptual connections associated with language. Throughout this activity, students observed that language was intricately linked with concepts such as communication, symbols, culture, and time. Additionally, they associated language with civilization, writing, meaning, and message. Emine elaborated on her conceptual connections with language as follows:

> I perceive language as the cornerstone of life itself. Even before we learned letters, we could communicate through sounds, as exemplified by the whistled language. I included the concept of life because I believe language is fundamental to our existence. Another significant association for me is memory, which I see as intimately intertwined with language. Culture and civilization are synonymous in my view; they emerge alongside the development of written or spoken language. I believe language not only facilitates communication but also shapes our thoughts and perceptions. Moreover, symbols serve as yet another form of language, as evidenced by the film we watched (I.3).

Synergistic Thinking

Conceptual synergistic thinking represents an advanced cognitive process wherein concepts are interpreted in conjunction with various contexts and situations. The conceptual learning process indicated that students engaged in synergistic thinking by analyzing concepts in relation to their personal lives, societal dynamics, and visual design aspects. This finding is elaborated on below.

Throughout the teaching process, students demonstrated the ability to relate concepts to their own identities, experiences, memories, familial backgrounds, and geographical locations. For instance, Büşra connected the concepts of language and cultural immersion with her personal experiences by stating, *"The notion of 'You think as you speak' resonated with me deeply. A friend of mine told me that before - how my prolonged exposure to Korean dramas seemed to influence my thought patterns, which I observed and acknowledged at the time" (I.1).* Similarly, Ali illustrated the interconnectedness of language and culture with geographical influences by explaining, *"Languages vary across cultures, and even within the same culture, linguistic variations exist. Regional accents are indicative of this diversity. For instance, while the overarching culture in Çanakkale remains consistent, linguistic nuances differ significantly between urban and rural areas" (I.2).*

It became apparent that students integrated societal perspectives into their explanations of concepts during the teaching process, drawing upon reflections on the characteristics and disparities of the societies in which they resided. In this context, Zeynep drew a connection between culture and legends, emphasizing that legends serve to unify societies and serve as a means of societal expression. She articulated her viewpoint as follows: *"I've often contemplated the significance of legends. They serve as a mechanism for societies to establish connections with one another, conveying messages of identity and solidarity. I observed this phenomenon in both the Şahmeran and Lületaşı tales. It's as if societies seek to leave a lasting legacy for posterity" (I.2).* Similarly, Sevgi highlighted the interplay between culture and geography, underscoring the influential role of geography in shaping societal conditions. She expressed her perspective as follows: *"Rather than asking me about abstract concepts, inquire about my homeland. Geography exerts a profound influence on culture, and in turn, culture shapes geographical landscapes. It profoundly impacts aspects of my life, including family structure and religious practices. For instance, if Türkiye were situated closer to Norway, our societal norms may lean toward atheism. Conversely, proximity to Saudi Arabia might result in a more conservative societal outlook" (I.2).*

Students related and expounded on the design studies they examined and executed during the teaching process by linking them with specific concepts. For instance, students perceived memory-based graphic design studies as being associated with the past, cultural-based studies as linked to traditional symbols and forms, and language-based studies as connected to communicativeness. Ozan associated autobiographical timeline designs, centered around the concept of memory, with themes of the past and memories. He elucidated his perspective as follows: *"Memory entails the preservation of our recollections within ourselves. In my timeline, I recorded the first things that come to mind when I reminisce, events that have left a lasting imprint on my life. I believe memory is inherently intertwined with our memories" (I.1).* Zeynep incorporated traditional motifs into her page design study inspired by culture, illustrating her approach: *"In my design, I incorporated traditional symbols, evoking associations with the Arab world. I utilized Arabic-like scripts and opted for Turkish coffee tones, creating a color palette reminiscent of Turkish cultural elements. By utilizing cream-colored backgrounds resembling aged paper, the design elements harmonized, evoking the ambiance of an Eastern tale" (I.2).* Aslı emphasized the importance of communication in the concept card design based on language and explained her thoughts as follows: *"I had designed a page layout. It didn't have much to do with language. Because in page layout, for example, I had made the headlines in a different font. Then I had made visual motifs. But here, I just designed with a language that could be understood" (I.3).*

Generalization of Concepts

Concepts possess inherent general characteristics that encompass a wide array of examples spanning various cultures, locales, and eras. During the course of the study, students adeptly integrated numerous examples under conceptual frameworks, interpreted concepts by extrapolating them to diverse scenarios, and critically evaluated instances within concepts through comparative analysis. These findings are explained below.

Throughout the conceptual teaching sessions, a myriad of activities were undertaken, diverse scenarios were explored, and graphic design studies were conducted. For instance, in lessons centered around the concept of memory, students engaged in storytelling activities, concept mapping exercises, and autobiographical timeline design projects. Within this framework, students demonstrated an ability to conceptually connect disparate situations, thereby enriching the course curriculum. In this regard, Büşra associated the concept of memory with the notion of the past, effectively complementing activities conducted under the concept. She articulated her perspective as follows: *"Our focus was primarily on memories. We delved into activities related to the past, such as concept mapping, among others. Additionally, our ongoing timeline project also revolves around past experiences" (I.1).* Likewise, Nihal expanded upon activities and design studies pertaining to the concept of culture, reflecting on her experiences as follows:

> *The documentary we viewed about tattoos provided insights into cultural practices. Then, we attended an exhibition centered around Yunus Emre, which further delved into cultural themes, albeit intertwined with language. Then, we designed pages about it. The designs were mythological stories specific to our respective regions. It was also related to the concept of culture from the first lesson. It resembled a tattoo. Then, we combined it with our friend's story and created our own mythological story. We achieved a cultural fusion. Then, we designed it as text (I.2).*

Due to their inherent versatility, concepts facilitate the interpretation of knowledge by enabling its transfer to alternative contexts. Throughout the conceptual teaching process, students adeptly interpreted the information encountered by applying it to different content domains. For instance, Sevgi extended the concept of writing, discussed in the initial week's lesson, to the subsequent lesson focusing on culture, elucidating the intricate relation between writing and culture. She conveyed her insights as follows: *"We delved into the topic of writing, and it became apparent how deeply intertwined it is with culture. This is a notion I wholeheartedly endorse because individuals often reflect their cultural milieu through their writing. They encapsulate their knowledge, experiences, and insights into literature and art, thereby imbuing it with the essence of their culture" (I.2).* Similarly, numerous students drew connections between writing and the lesson centered on the concept of language, associating writing with the fundamental aspects of language. Ali articulated this viewpoint by stating as follows: *"Writing serves as the closest manifestation of language. In fact, language finds its concrete form through writing. While language primarily exists in spoken form, each language possesses a distinct writing system. For instance, English and Turkish employ different writing styles, reflecting the unique characteristics of each language" (I.3).* Emine established a connection between culture and language by transferring the concept of culture to the lesson based on language and expressed her thoughts as follows: *"In culture and civilization, things that are formed through language, I think, through written or spoken language" (I.3).*

During the conceptual learning process, students actively engaged in questioning various scenarios by juxtaposing them with one another. Notably, students undertook personal inquiries by comparing past and present circumstances, thereby scrutinizing the present by contextualizing it within historical perspectives. Nihal exemplified this introspective approach by reflecting on memory, contemplating the dynamics between past recollections and present realities. She articulated her musings as follows: *"When individuals contemplate the future, they often neglect their past experiences, losing sight of the lessons learned. However, upon introspection, one realizes that each past action contributes to shaping the present moment, underscoring the continuity of personal growth and self-awareness" (I.1).* Furthermore, Nihal scrutinized the evolving significance of cultural elements over time, discerning shifts in societal perceptions and behaviors. She elaborated on this observation by stating as follows: *"There exists a pervasive trend of conformity, where individuals emulate popular behaviors without critical evaluation. Right now, one person does it, everyone does it. You don't even question why I did it, why I did it. Even the perception of beauty is like that, that is what beauty was then" (I.2).* Sevgi embarked on a personal inquiry by juxtaposing herself with a cultural element, prompting introspection into her motivations and beliefs. She shared her reflections by stating, *"Upon comparing myself with the individuals portrayed in the documentary, I pondered the underlying reasons for my decision to get a tattoo. It dawned on me that my choice was influenced by a desire to emulate the beauty exemplified by the women in Mardin and Urfa, as well as a belief in the auspiciousness associated with tattoos" (S.R.).* During the aesthetics-focused lesson, students critically examined traditional calligraphy principles and the essence of artistic identity. Zeynep expressed this

as follows: "Especially in Arabic, you can't add anything because even a dot changes the whole meaning. *It seemed closed-minded to me" (I.4)* and *"I think it can be confused. That's why it's called contemporary art anyway" (I.4).* Ozan expressed this as follows: *"The artist is someone who breaks certain patterns... They break the boundaries and create something different" (I.4).*

Detailed Learning

Throughout the conceptual learning process, a diverse array of activities and design studies were undertaken, facilitating students' comprehensive understanding of the concept. Students reported gaining multifaceted insights, engaging in profound contemplation, recognizing intricate conceptual interrelations, and achieving enhanced comprehension of the concept. Emine encapsulated this sentiment by remarking, *"Initially, the concept of memory was presented to us from various angles, shedding light on different facets of it" (I.1).* Similarly, Ozan articulated the depth of their learning experiences by stating, *"We engaged in activities such as slide presentations and concept mapping, encouraging us to delve deeper into our subject matter" (I.2).* Furthermore, Büşra emphasized the breadth of knowledge acquired by affirming, *"Our exploration of culture has furnished us with a wealth of insights and understandings" (I.2).* During the concept mapping activities, students articulated a heightened awareness of conceptual connections and a deeper grasp of the subject matter. Emine elucidated this experience by noting, *"Expanding our group during the concept mapping exercise truly broadened my perspective" (I.1).* Similarly, Zeynep reflected on her newfound understanding by remarking, *"Throughout the lesson, I gained insights into diverse concepts of language. It prompted me to contemplate language on a deeper level than ever before" (S.A.).* Additionally, Nihal highlighted the expansiveness of their learning by stating, *"The concept mapping exercise allowed us to dissect the concept into subcategories. We realized the extensive scope of factors contributing to culture. We also wrote about the things that influence culture. It allowed us to see the elements that make up a culture" (I.2).*

Findings Regarding Conceptual Design Practices and Reflections of the Concept on Design

The study encompassed concept-based graphic design endeavors, wherein students crafted various design pieces aligned with specific conceptual themes. These included an autobiographical timeline design inspired by the concept of memory, a page design infused with mythological elements echoing the concept of culture, a bilingual concept card design embodying the essence of language, and a cultural poster incorporating personal narratives reflective of the aesthetics concept. Throughout these creative undertakings, students imbued their designs with personal expressions, effectively reflecting the essence of the respective concepts. The process of concept-based teaching yielded significant findings. These findings were presented under subheadings such as making conscious design, establishing personal connections, transferring cultural forms, highlighting communication, presenting differences in the general context, and learning and teaching design.

Making Conscious Design

Throughout the conceptual learning process, students conveyed that preliminary design activities enriched their designs, facilitating a conceptual understanding and a deliberate approach to design. Nihal emphasized the consciousness imbued into their designs by noting, *"It prompts a more deliberate approach. You can grasp it theoretically" (I.1).* Sevgi highlighted how these activities clarified the conceptual trajectory of their designs by explaining, *"Initially, I didn't realize the transition from writing to culture, from culture to memory. It wasn't until we delved into timeline design that I connected the dots. Without this groundwork, I might have struggled to contextualize it" (I.1).* Ozan noted how this process allowed their designs to solidify by remarking, *"Each week, we tackle different themes with abundant materials at our disposal, expanding our conceptual horizons. This grounding ensures our work finds a firm footing" (I.2).* Aslı underscored how this process sparked inspiration for their designs by stating, *"Our conceptual exploration serves as a blueprint, guiding our creative endeavors" (I.2).*

Establishing Personal Connections

In the study, graphic design projects were intended to connect with students' personal experiences and foster their conceptual understanding, enabling them to express their lives through design. To achieve this objective, an autobiographical timeline design was introduced during the memory-themed lesson. A cultural poster design centered on aesthetic concepts was conducted during the aesthetics-focused session. The ensuing findings from these initiatives are outlined below.

The act of writing serves a functional purpose in capturing significant events spanning from the past to the present, thereby shaping historical memory. Guided by the notion that writing plays a pivotal role in memory formation, the study implemented an autobiographical timeline design. The objective was to chronicle personal narratives historically and encapsulate students' life experiences through design. Throughout the design process, students systematically organized their creations into chronological segments, documenting seminal moments, cherished memories, and pivotal life stages, thus imbuing their designs with their life narratives (Figure 8). Aslı articulated this process by stating, *"Initially, I delineated the most impactful events from my past, recalling moments from my early childhood, for instance" (I.1)*. Ozan elaborated on his approach by remarking, *"My work encapsulates enduring memories. It's often the 'firsts' that leave a lasting imprint on our minds. I approached my project with this in mind; for instance, I depicted the first theater experience of my life, a momentous occasion for me" (I.1)*. Similarly, Zeynep reflected, *"I chose to highlight the joyous memories that have left a lasting impact on my life" (I.1)*. However, some students admitted to grappling with reluctance and difficulty in portraying their personal experiences. Aslı candidly admitted, *"Engaging in the autobiographical timeline exercise can be challenging; one may encounter difficulty in reflecting on oneself" (I.1)*. Emine shared, *"I found it somewhat daunting to divulge personal details; hence, I opted for more generalized themes" (I.1)*.
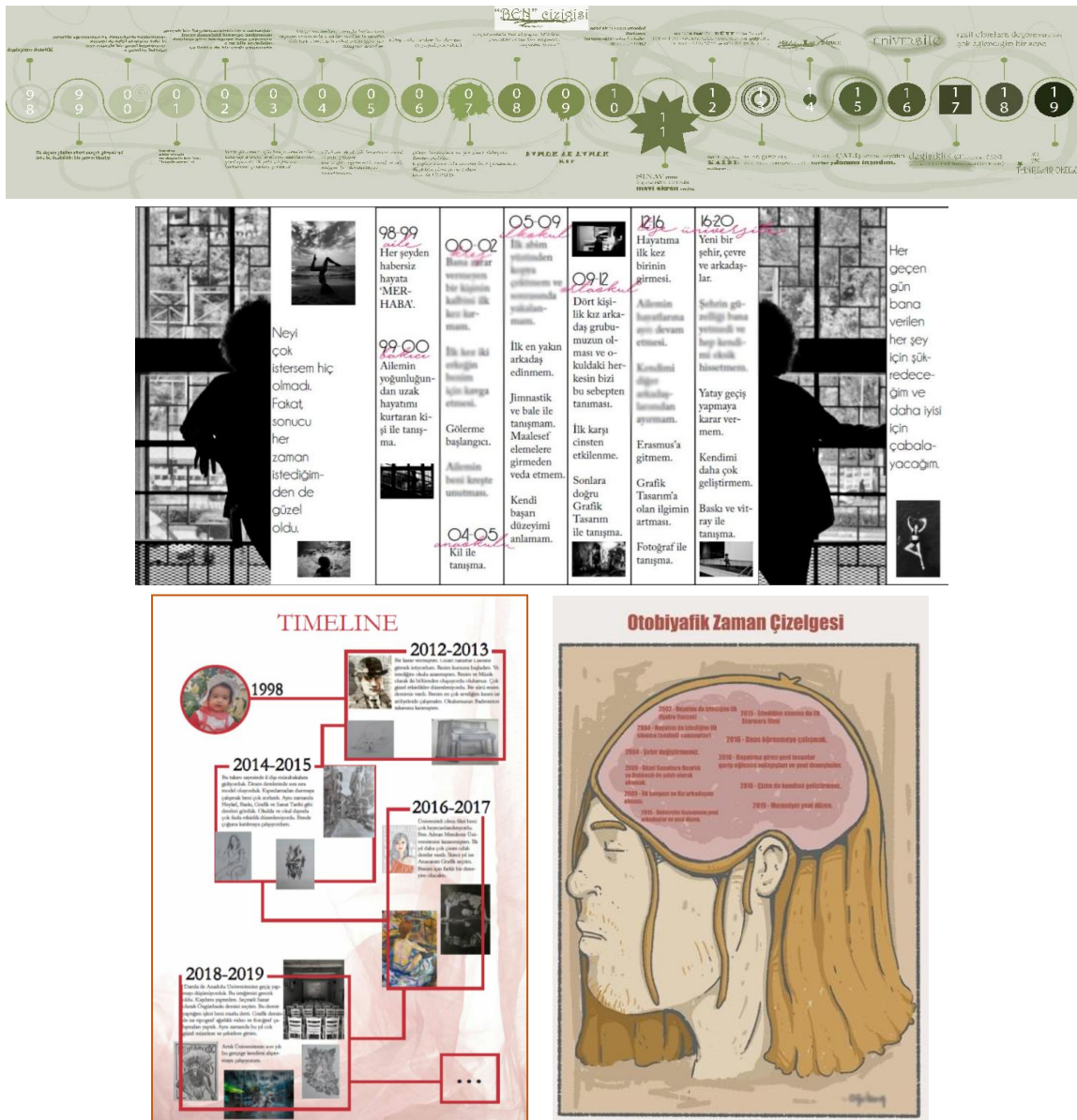
Figure 8. Examples of autobiographical timeline designs

Besides its communicative function, writing encompasses design and aesthetic elements. In the study, the lesson on aesthetics explored calligraphy and calligraphic studies. A cultural poster project based on students' own writings was implemented to delve into minor aesthetics. Throughout this process, students infused their designs with personal writing experiences (Figure 9). Emine elucidated her approach by stating, *"I endeavored to elevate plain writing into something visually captivating. I aimed to imbue my work with aesthetic appeal" (I.4),* underscoring her endeavor to articulate aesthetic expression. Students employed various techniques during the design phase, including hand drawing on paper followed by digital editing, as well as direct editing on computer-based fonts. Accordingly, Emine stated that she wrote on paper by hand, made different attempts, transferred what she wrote to the computer, and then edited it again there. She explained this process as follows: *"I wrote Ankara on one page, striving to maintain uniformity in size and thickness. I experimented with various styles, orientations, and revisions. Subsequently, I digitized the text, refining it further on the computer by adjusting individual characters' proportions and alignments" (I.4).* Nihal described her method of utilizing pre-existing fonts and making modifications by stating, *"I utilized a software program to manually draw and fill the characters. The program generates outlines without filling them or adjusting their angles. I drew with the pen in the program and filled them in. I pulled aside the ones I painted inside. I took it out of the mold I made (I.4).*

Figure 9. Examples of cultural poster designs

Transferring Cultural Forms

In the study, the lesson centered on the concept of culture involved the examination of manuscripts originating from the Middle Ages across Christian, Islamic, and Far Eastern cultures. Furthermore, a two-page design project based on the mythological narratives of students' hometowns was conducted. Throughout the design process, students were noted to incorporate cultural elements relevant to the geographical regions and historical periods they addressed, thereby infusing their designs with these forms (Figure 10). For instance, several students drew inspiration from medieval manuscripts, integrating features such as initials, Gothic lettering, a weathered parchment-like appearance, as well as black-red color schemes and motifs into their designs. For example, Aslı explained her utilization of Gothic script for titles by stating, *"I opted for Gothic lettering to evoke the ambiance of mythological texts" (I.2)* and *"The use of the Old English Text MT font for the title was intended to evoke a sense of antiquity in line with the narrative's historical context" (D.T.). She further elaborated, "I employed colors like black, maroon, red, and brown, drawing inspiration from mythological literature" (I.2).* Similarly, Ali employed archaic manuscript styles to evoke Greek mythology by remarking, *"I selected Gothic lettering to capture the essence of mythology. When one thinks of Greek mythology, this style of writing often comes to mind, akin to ancient tomes. I intentionally aged the background to enhance the effect" (I.2).* Additionally, some students infused their designs with colors and imagery reflective of Eastern and Anatolian cultures. Zeynep, for instance, incorporated Eastern cultural motifs into her depiction of the Lületaşı-Şahmeran mythology by explaining, *"The imagery evokes associations with the Arab world, with the text resembling Arabic script. The color palette, reminiscent of Turkish coffee tones, harmonized beautifully with the cream background, reminiscent of aged parchment" (I.2).* She further reflected, *"Drawing upon my cultural knowledge, my design was influenced by traditional arts such as miniatures and other Anatolian motifs" (I.2).* Büşra emphasized her incorporation of Anatolian motifs and Şahmeran symbolism in her depiction of the Şahmeran mythology by remarking, *"I endeavored to imbue the motifs with Anatolian and Şahmeran symbolism" (I.2).*

Figure 10. Examples of page design

Highlighting Communication

In the lesson centered on the concept of language within the research, language was intricately linked with the idea of communication, delving into concepts such as source-message-channel-receiver in the communication process. In terms of design, the implementation of concept card design was executed. Throughout this process, it became evident that students aimed to underscore the communicative essence of their designs (Figure 11). Students predominantly opted for designs that were straightforward, comprehensible, and easy to interpret, incorporating formal adjustments to enhance clarity. Emine emphasized the importance of simplicity, clarity, and comprehensibility in her design by stating, *"My design prioritized simplicity above all. It was crucial to ensure that the words and their meanings were crystal clear and easily understandable. Extraneous elements shouldn't detract from the main message"* *(D.T.).* Büşra highlighted the formal accentuation of the message by explaining, *"By darkening the background and lightening the foreground, I aimed to bring the message—that is, the words—to the forefront"* *(I.3).* Sevgi aimed for a design that was straightforward and easy to read by expressing, *"I opted for Helvetica because it's a simpler font style. Plus, it's highly legible; the text in my initial communication attempts wasn't as clear"* *(I.3).* Zeynep stressed the significance of readability by remarking, *"The primary objective was ensuring that the text was easily legible. Our goal is to convey a message to the recipient, to elucidate the meanings of the words"* *(I.3).*

Presenting Differences in the General Context

Concepts encompass a broad characteristic and examples from various cultures, time periods, and geographical locations. In the study, intertextual and bilingual design studies were conducted to comprehend the nuances within this broad framework. As a result, works reflecting differences together emerged (Figure 10, Figure 11). In the lesson focusing on culture, a page design study with a mythology theme was conducted with an intertextual approach (Figure 10). Students were tasked with sharing their mythological narratives with peers and incorporating excerpts or blending two stories from their peers' mythological tales. This intertextual approach resulted in designs that reflected differences together. Nihal encapsulated this sentiment by stating, *"We amalgamated the cultures of two cities: Safranbolu and Maraş" (I.2).*

In the lesson centered on the concept of language, bilingual concept card design was implemented (Figure 11). Throughout the design process, students explored various writing languages and incorporated a chosen language into their designs. Consequently, bilingual design studies emerged, reflecting differences together. Nihal articulated this by remarking, *"We encountered various languages" (I.3),* and *"The bilingual aspect of the design was particularly appealing to me because I believe it offers a unique perspective" (S.A.)*, highlighting the added perspective bilingual design provides.
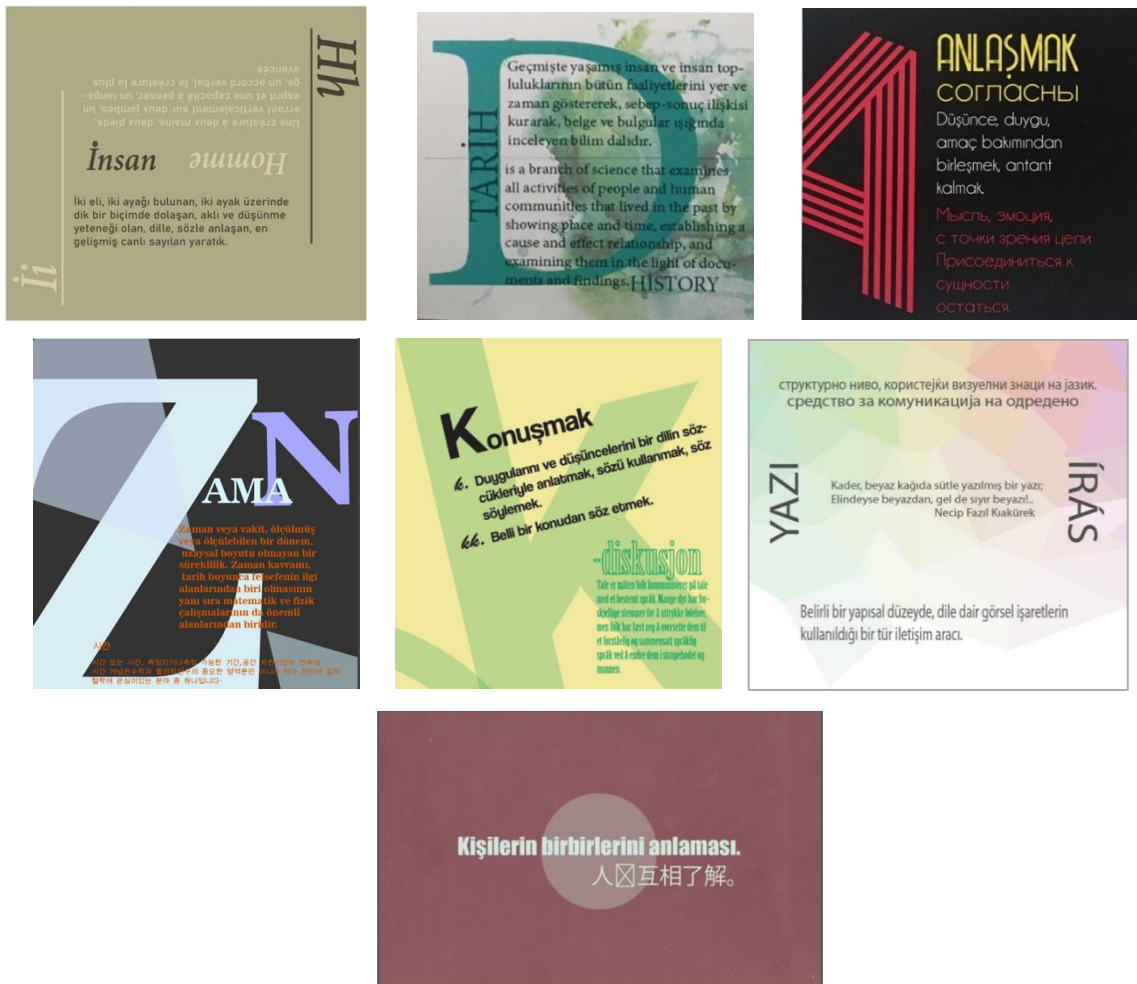

Figure 11. Examples of bilingual concept card designs

Learning and Teaching Design

During the conceptual learning process, students engaged in various graphic design studies. Throughout this process, students highlighted the acquisition of pertinent information in graphic design and acknowledged its contribution to their development. Nihal articulated this sentiment by stating, *"I believe it enhanced my understanding of design" (I.3).* Sevgi remarked, *"We're not only learning but also*

producing work. It's directly linked to our future profession. I sense personal improvement in this course" (I.1). Emine also shared her thoughts by mentioning, *"Writing plays a significant role in every aspect of graphic design. It was beneficial to delve deeper into writing. We've gained valuable insights into writing and content creation"* (I.4).

The participants in the study comprised 4th-grade students enrolled in Fine Arts Teaching programs. As aspiring educators, the participants reflected on the instructional process as a valuable learning experience. They felt prepared to apply in their future teaching endeavors. Sevgi articulated her perspective by stating, *"Upon becoming a teacher, if I have the opportunity to incorporate cultural elements into my teaching, I now possess a framework of ideas on how to engage my students"* (I.2). Similarly, Aslı remarked, *"Prior to commencing any assignment, the process of creating concept maps serves as a guiding tool for us. Perhaps I can facilitate students' learning experiences by employing the concept extraction method"* (I.2).

Conclusion, Discussion, and Recommendations

The objective of this study was to illustrate the implementation of the Graphic Design Workshop V course, a component of the Visual Arts Education program at the undergraduate level, with an emphasis on conceptual comprehension and the cultivation of conceptual thinking skills. To achieve this objective, four action plans were executed, data were collected and analyzed, leading to the derivation of several findings. These findings, in turn, informed specific conclusions. Among these conclusions was the strategic planning and execution of the Graphic Design Workshop V course within the Visual Arts Education program, underpinned by a foundation of conceptual understanding. Throughout the study, overarching societal concepts such as memory, culture, language, and aesthetics were explored. This exploration involved the interconnection of these concepts with various phenomena and designs spanning personal, cultural, social, historical, and aesthetic dimensions. To facilitate this process, various concept mapping techniques were employed, and activities were meticulously designed with a student-centric approach, thereby fostering active engagement and participation among the students. At the conclusion of the implementation process, notable advancements in conceptual understanding were observed among the students. Specifically, students demonstrated the ability to establish conceptual connections, engage in synergistic thinking by linking concepts with diverse phenomena, generalize concepts by categorizing various phenomena under overarching concepts, transfer knowledge to different contexts within the framework of concepts, and engage in critical inquiry through comparative analysis of disparate situations. In addition to conceptual development, students exhibited a conscious approach to their design endeavors. They demonstrated an adept ability to integrate conceptual understanding into their designs, thereby showcasing their capacity for nuanced interpretation and application of concepts. Moreover, students expressed the belief that this comprehensive process would greatly benefit them in their professional pursuits. The findings gleaned from this study were contextualized through a review of relevant literature, and recommendations were formulated based on the outcomes. These insights contribute to the broader discourse on conceptual teaching methodologies and offer valuable guidance for future educational practices.

According to Erickson (1998), in today's context where the amount of information is increasing and complex social issues need to be interpreted, traditional educational programs remain limited. There is a need for concept-based education that enables abstract thinking and the transfer of knowledge and skills to meet the needs of the present day. In this context, visual arts education can be conducted based on conceptual learning, where various thinking skills are employed.

Erickson and Lanning (2014) asserted that conceptual learning facilitates the interpretation of content within process-based disciplines like visual arts, enabling a transition from mere execution to a deeper exploration of meaning. Contemporary researchers in visual arts education also emphasized that relying solely on modernist formalism is limiting in understanding contemporary art and addressing current issues. They argued that visual arts education should be enriched with significant ideas and issues of the present time (Gude, 2007; Mayer, 2008; Sandell, 2009; Walker, 2001). In line with this, some researchers suggested implementing visual arts education curricula enriched with themes or concepts (Gude, 2007; Sandell, 2009; Walker, 2001). This study also indicates that structuring Graphic Design courses within visual arts education based on conceptual learning is consistent with contemporary art education recommendations.

According to Freedman (2000), today's visual arts educators should incorporate a social perspective into individuals and ensure that they understand themselves and the situations developing around them. Similarly, other visual arts researchers argued that sociocultural themes and important issues should be included in the curriculum (Freedman, 2000; Gude, 2007; Mayer, 2008; Walker, 2001). In the present research, the course content was structured around macro-level social concepts to encourage students to think more broadly. This approach aligns with current recommendations for visual arts education, emphasizing the importance of contextualizing art within broader social contexts (Walker, 2001).

According to Walker, in concept-based art studies, concepts should resonate with students' lives, experiences, and beliefs. Students should be encouraged to explore questions such as "How does this concept relate to my life? Where do I fit into this concept?" This approach promotes a deeper understanding of art and its significance in the contemporary world. Freedman (2000) similarly emphasized that visual arts education should empower students to make sense of their own lives. In the conducted study, activities were designed to allow students to relate the concepts to their personal experiences and immediate surroundings, fostering meaningful connections. Concurrently, Walker (2010) pursued a similar approach in his conceptual learning research, aiming to prompt students to question their own and others' identities through art studies. His findings suggested that students could explore their identity relationships through such practices. This underscores the potential of conceptual art practices in aiding individuals to navigate and understand themselves and their environment.

Erickson (2008) proposed that conceptual learning should prioritize student-centered practices, ensuring active student participation in the learning process. In the present research, the conceptual learning process was meticulously planned and executed in a student-centered manner, facilitating robust engagement from the students. Group work, concept mapping exercises, questioning activities, and visits to museums and workshops were incorporated to enhance student involvement and deepen their understanding of the concepts. Students expressed their ability to express themselves, active participation, information exchange, and interaction throughout the process. Bülbül's (2021) study on active learning-based visual arts education similarly indicated that pre-service classroom teachers generally felt at ease, expressed their ideas, and viewed the process positively. Erickson (2008) noted that learning environments promoting student participation enhance motivation. In this context, conducting the process of conceptual learning in a student-centered manner and supporting it with active learning methods contribute to the student's participation in the process, their ability to express themselves, the creation of an interactive classroom environment, and an increase in the student's learning motivation.

Various concept mapping activities were conducted as part of the study. According to Erickson (2008) and Marschall and French (2018), concept mapping activities play a crucial role in developing conceptual understanding within a concept-based learning framework. Concept maps serve as tools to create networks of concepts and visualize their connections, facilitating the comprehension of complex ideas (Erickson, 2008). The research demonstrated that students were able to identify conceptual connections through concept mapping activities, enabling them to engage in self-directed sense-making. Therefore, concept mapping activities in visual arts education are anticipated to aid in establishing conceptual links and interpreting experiences.

Additionally, Erickson (2007) suggested that conceptual understanding is enhanced through synergistic thinking, where concepts are analyzed in relation to various contexts. In the conducted study, students interpreted concepts by linking them to diverse situations. In this context, students not only interpreted concepts but also related them to their own experiences, social interactions, and design projects, integrating them into their creative work. Similarly, Wolkowicz (2017) observed in her research on integrated conceptual learning that students engaged in synergistic thinking, allowing them to develop higher-order thinking skills by combining topics from different domains, such as music and biology, within conceptual frameworks. Synergistic thinking also refers to the synthesis of information, which is listed as area-specific skills that should be acquired according to the Ministry of National

Education's Visual Arts Course Curriculum (MoNE, 2018) book. Sandell (2009) highlights the importance of incorporating methodologies that foster diverse cognitive skills into visual arts education to effectively interpret contemporary society. Conceptualizing visual arts education through a conceptual lens facilitates the cultivation of synergistic thinking, thereby activating various cognitive abilities to address present-day challenges.

Integrated thinking emerges when knowledge is applied across different contexts within conceptual learning frameworks (Erickson, 2007; Erickson et al., 2017). Notably, macro concepts offer heightened potential for integration (Erickson, 2008). In the present research, macro-level concepts with significant integrative potential were chosen. Throughout the course, it was evident that students applied these concepts to various socio-cultural contexts beyond graphic design and interpreted novel information. However, the scope of the research was confined to the Graphic Design course, and interdisciplinary integrated studies across different disciplines were not undertaken. In contrast, studies by Wolkowicz (2017) and Bolat (2016) showcased interdisciplinary integrated practices within conceptual courses in their respective research endeavors. In these studies, fundamental concepts were explored by applying them to diverse disciplines, encouraging students to engage in integrated and profound thinking. It is known that in today's visual arts education, the boundaries between different disciplines have become blurred (Marshall, 2005), and the content has expanded to encompass interdisciplinary dimensions (Mamur, 2019). Concept-based approaches in visual arts education play a pivotal role in fostering integrated thinking among students and facilitating their interpretation of knowledge across various contexts.

According to Erickson et al. (2017), developing conceptual understanding empowers students to interpret new content by applying their knowledge to diverse contexts. Similarly, in the research, students were observed transferring the knowledge gained from conceptual classes to related activities and interpreting new content through these practices. Likewise, Fair (2014) discovered in a phenomenological study on teachers delivering concept-based nursing education that concepts facilitated knowledge transfer, thereby enhancing students' comprehension of information. Similarly, Carson (2007) observed in a study on concept-based ecological education at the elementary level that conceptual understanding is crucial for facilitating transferable knowledge. In this context, it can be inferred that the conceptual learning approach in visual arts education enables students to transfer knowledge to various contexts and interpret new content effectively.

According to Elnimer (2018) and Dohn (2021), in the 21st century, marked by rapid technological advancements and the proliferation of information, possessing transferable knowledge is crucial for comprehending evolving changes and diversities. Similarly, according to Freedman (2003), while art used to be solely observed in museums in the past, nowadays it has become an integral part of daily life experiences. In this era of increased visual experience, there has been a growing interest in the concepts of "visual literacy" and "media literacy" (Mamur, 2019). In this regard, the development of conceptual understanding can facilitate the interpretation of information by transferring knowledge to different contexts and interpreting various socio-cultural visual content (Elnimer, 2018).

According to Erickson and Lanning (2014) and Donham (2010), conceptual understanding fosters a critical and questioning perspective in individuals. As a result of the research, it was observed that students encountered different examples under the concept and questioned them by comparing them with each other. In this context, it was observed that students questioned the past and present under the concept of memory, the meaning of a cultural value from the past in today's context under the concept of culture, and traditional and contemporary art and artists under the concept of aesthetics. Similarly, Walker (2010) reached the conclusion in his concept-based research that students engage in social inquiry in their art studies. Therefore, it can be said that conceptual understanding provides students with a critical and questioning perspective. In line with contemporary art education approaches, it is recommended to include critical and questioning activities in visual arts education (Gude, 2007; Mayer, 2008; Freedman, 2000; MoNE, 2018; Walker, 2001). In this regard, the questioning perspective provided by conceptual understanding aligns with the current art education philosophy.

Erickson (2012) argues that conceptual learning facilitates three-dimensional learning, allowing students to develop deep conceptual understanding. This depth of understanding enables the synthesis of various examples through conceptual intuition and the recognition of connections, rather than relying on rote memorization. In the conducted research, a variety of activities were implemented under different concepts, alongside design studies. Observations revealed that students were able to draw connections between different examples, discern details, consciously craft their works, and interpret their designs within the conceptual framework. Therefore, it can be concluded that conceptual learning in visual arts promotes deep thinking among students and equips them with conceptual awareness.

According to Erickson and Lanning (2014), conceptual understanding in art disciplines facilitates a transition from the act of "making" to the act of "understanding," enabling exploration of content in art practice. In the conducted research, the undergraduate graphic design course was structured with a content-oriented, concept-based approach. Pre-activities were designed to help students acquire conceptual knowledge, followed by design studies. Throughout the process, students were encouraged to interpret their designs within the conceptual framework, fostering a deeper understanding of the subject matter. According to Walker (2001), students require sufficient conceptual knowledge to create high-quality art. The research indicated that the conceptual learning helped students understand their designs conceptually. Therefore, it is crucial to have adequately content-oriented concept-based visual arts education to comprehend artistic work.

During the design process, various design studies were conducted based on the concepts of memory, culture, language, and aesthetics. During this process, various design activities were conducted based on different concepts: For the concept of memory, students created autobiographical timelines; for the concept of culture, students designed pages based on the mythology of their living place; for the concept of language, students designed single and bilingual concept cards; for the concept of aesthetics, students created cultural posters based on their own writings, inspired by calligraphy. In this context, students recorded important moments in their own life memories in their designs, utilized forms such as cultural writing, symbols, etc. while designing their page designs, paid attention to language and communication while designing the concept card, paid attention to simple, clear and understandable design, and put forward their own aesthetic writings in cultural poster design. Overall, it is evident that students incorporated the concepts formally into their design practices and interpreted their designs from a conceptual perspective. In Walker's (2010; 2014) study on conceptual inquiries in art classes, students indicated that they engaged in concept-based art practices in art classes and, within the framework of concept-based art practices, they better understood themselves and their surroundings. Similarly, Çakıroğlu and Ayrancıoğlu (2021) found in their action research on conceptual practices in basic design courses that students were able to express concepts through visuals and explore the interaction between concept and design, resulting in successful designs. According to Erickson and Lanning (2014), conceptual learning enables students to interpret art studies and explore content in performance-based art production processes. In this context, it can be said that conceptual learning practices in visual arts classes can be planned and implemented, and concept-based practices can contribute to students' conceptual understanding of their surroundings, the images they encounter, and the artworks they create.

Indeed, Erickson's perspective highlighted the expansive nature of concepts, which can encompass diverse examples from various places, times, and cultures. The interdisciplinary and multilingual design studies conducted in the research reflect this understanding by incorporating different cultural influences. According to Ece and Fazlıoğlu Akın (2015), it is important for individuals to know cultures, recognize cultural diversity, and understand themselves and their surroundings to establish dialogue with each other in social life. Education plays a crucial role in the interpretation of cultures and in the development of cultural literacy. Mamur (2019) also highlighted the increasing importance of cultural literacy in today's context. According to Kırışoğlu (2009) and Gude (2007), visual arts education provides a creative method for understanding different cultures. In this context, concept-based education can contribute to students encountering various cultural examples, recognizing cultural differences, and conceptualizing cultures in a meaningful way.

The study involved students enrolled in the fourth year of the Art Education Department, specifically undertaking the Graphic Design Workshop V course. These students had completed a concept-based graphic design curriculum. Feedback from participants indicated that the course significantly enhanced their design skills. Moreover, as aspiring educators, they expressed their intention to apply these newfound skills in their future teaching careers. Çakıroğlu (2020) similarly concluded in his study on concept-based research among art education teacher candidates. Overall, it is evident that concept-based coursework not only enhances artistic and design abilities but also prepares future educators for their profession. According to the Ministry of National Education (MoNE, 2017), there is a pressing need to align teacher training with current perspectives to enhance educator qualifications. San (2008) further emphasized the importance of cultivating individuals capable of navigating contemporary changes, fostering interdisciplinary, independent, critical, and creative thinking skills. In this regard, it can be said that conceptual learning responds to the skills required in modern teaching, such as fostering critical thinking (Donham, 2010; Erickson & Lanning, 2014; Marschall & French, 2018), promoting creative thinking (Erickson et al., 2017), and encouraging interdisciplinary thinking (Erickson, 2007; Erickson et al., 2017).

The research does present certain limitations that provide avenues for future investigation, which are as follows:

- Given the researcher's role as an assistant instructor in the Graphic Design Workshop V course at the institution, insights into the teaching process were gained, allowing for the identification of specific instructional challenges. Consequently, the study was confined to the 4th grade Graphic Design Workshop V course within the Faculty of Education, restricting the data collection to this particular course. Within this constraint, future research could explore concept-based studies across various disciplines within visual arts at the undergraduate level or extend inquiries to visual arts classes within primary education settings, thereby enriching the scholarly discourse in the field.

- Since the study aimed to address issues within the teaching process of the Graphic Design Workshop V course, an action research design was employed. Within this framework, concept-based action plans were executed, and the research was delimited to the data derived from these implementations. However, within this limitation, opportunities exist for conducting qualitative or quantitative studies across undergraduate or primary education cohorts. In addition, the study is limited to the implementation process and the data collected from the student group who took part in this process. In this context, studies based on the lesson observations and opinions of instructors who conduct concept-based lessons in visual arts disciplines can contribute to the field.

- Due to the time limitation, the study was applied to fourth-year undergraduate students in the fall semester of the 2019–2020 academic year for 12 weeks. The research data were limited to 12 weeks. To broaden the scope of research, longitudinal studies could explore the application of concept-based learning across undergraduate studies, spanning from the first year onwards.

- In the realm of visual arts education, the current study centered on the Graphic Design Workshop V course, with a thematic focus on writing and supplemented by interdisciplinary macro concepts such as memory, culture, language, and aesthetics. While the study was delimited by these conceptual frameworks, future research could delve into discipline-specific micro concepts tailored to each level of the field, aimed at cultivating a deeper understanding of the discipline's unique concepts. Moreover, expanding the literature could entail conducting studies across various visual arts disciplines, each exploring different concepts.

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