# The Effect of Different Visual Literacy Patterns of Drawings and Instructional Photos in Developing Concepts for Middle School in State of Kuwait

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## Abstract

*One problem we have in our educational system is that the lack of visual literacy access and instruction hinders students' ability to effectively understand and interpret visual information. We need to improve our school curriculum to be more visual to let students build their basic knowledge of visual literacy. A qualitative approach was used in this study because it matches the characteristics of research conducted in the social sciences. The participants who completed this study were 47 middle school teachers. The result of this study was unsurprisingly positive, showing significant awareness of teacher performance and engagement. Through instructional photos and drawings, students can engage in discussions and share their interpretations with their peers. This collaborative approach fosters a sense of teamwork and encourages students to consider multiple perspectives and insights.*

*Keywords: education, drawing, photography, middle school, learning, Kuwait*

## 1. Introduction

Educational technology has revolutionized the way we approach instruction in the modern era. By integrating various digital tools and resources into the learning process, educators can enhance engagement, promote active learning, and tailor instruction to meet individual student needs. The transformative impact of educational technology on traditional classroom settings highlights its potential to improve student outcomes. Furthermore, it examines the challenges and opportunities associated with integrating educational technology into the curriculum, emphasizing the need for thoughtful implementation and ongoing professional development for teachers. However, despite its potential benefits, there are several issues that need to be addressed for successful integration and utilization of educational technology in schools. One major issue is the lack of access to technology and internet connectivity for all students, particularly those in underserved communities. This digital divide creates disparities in educational opportunities and hinders the ability of disadvantaged students to fully participate in digital learning experiences. As highlighted in the sources provided, the digital divide continues to be a challenge even with the advent of novel educational technologies. Moreover, the reliance on technology in the classroom can also burden teachers, especially those who are not familiar or comfortable with using technology. This can cause additional stress for teachers, particularly veteran educators who may have limited experience with digital tools. Additionally, there are barriers related to insufficient technological knowledge and the overall complexity of integrating technology into the classroom [13].

## 2. Literature Review

One problem of our educational system is that the lack of visual literacy access and instruction hinders students' ability to effectively understand and interpret visual information. Without the necessary skills to critically analyze and evaluate visual messages, students are at a disadvantage in navigating the visually saturated landscape of today's media-driven society. This issue of lack of visual literacy in education is a significant hurdle that needs to be surmounted. Educators have recognized the importance of developing visual thinking strategies for students because they lead to long-term benefits such as critical thinking, proficiency in oral and written languages, and the ability to analyze symbolism conveyed through visual media [2]. There is a difference between knowledge in our textbooks and the way our visual media is used. Some of these books use educational drawings and others use photographs that have an impact on the development of scientific concepts for seventh grade students. Therefore, this difference causes some difficulties for seventh grade students who are learning the scientific concepts of the same lesson, and the researcher, after reviewing old studies on this problem, has concluded that these difficulties stem from the use of traditional teaching methods [9]. Whitty, 2006 study found that it is necessary to show the importance of using visual

materials intensively to develop scientific concepts, such as in a study by Modara et al. (2020), who examined the effectiveness of infographics for the development of the technological aspect of information and communications, and it confirmed the effectiveness of educational drawings and instructional photos in the development of scientific concepts in seventh grade. If our learning system depends only on one teaching style, it will be limited and may not cater to the diverse learning needs of students. Therefore, it is important to consider and assess differences in learning styles [3]. By paying attention to the differences in learning styles, educators can ensure that they are providing a varied and inclusive approach to teaching that caters to the diverse learning needs of students [17]. Applying visual literacy approaches can greatly enhance the effectiveness of instruction and improve student engagement and understanding.

We need to improve our school curriculum to be more visual to let students build their basic knowledge of visual literacy. Teachers need to recognize the importance of visual literacy for the children of the technology generation [12]. With the increasing integration of technology and the internet into our daily lives, students are constantly exposed to visual content. However, without proper guidance and instruction, they may struggle to fully comprehend and effectively analyze these visual messages. High-quality visual education requires skilled and visually literate teachers who can provide students with the necessary tools and knowledge to navigate and critically engage with visual media [16]. To address the lack of visual literacy in education, it is essential for schools to integrate visual thinking strategies into their curricula [2]. This can be done by incorporating art education into other subjects such as science, home science, language, mathematics, and music [1]. By incorporating visual thinking strategies into these subjects, students can not only develop their visual literacy skills but can also enhance their understanding and learning in a holistic manner.

The rationale for conducting this study lies in the need to improve our understanding of visual language and apply it more effectively inside classrooms and enhance the accuracy of applications that we use every day and around us. Visual language plays a crucial role in our daily lives. It is through visual communication that we can interpret and make sense of the world. It is part of our communication. The acquisition of visual literacy skills is necessary for engaging in a meaningful understanding of the broad range of images that we continuously encounter [2].

Educators know they must apply an educational technology approach to improve their teaching styles, so they use tools that have a specific purpose, and they know they must pay attention to the viewers' background and their own previous experience to deliver the needed knowledge in easy and rich ways.

The purpose of this study is to examine the use of visual tools, specifically drawing and instructional photos, as a means of enhancing teaching styles to improve the educational experience for students and promote effective learning.

Our study examines the need for instructors to apply educational technology tools based on visual language to create interactive teaching methods that effectively explain conceptual and practicum contents. These tools enable educators and researchers to teach more effectively; therefore, they must be interactive, user-friendly, and accessible through both digital and regular teaching methods [6]. Will visual literacy work better for conceptual classes and practicum classes? Can the educator apply visual tools as a technology strategy to raise any level of students' understanding? Can drawings and instructional photos improve students' comprehension? The guiding research question for this study is "what is the effect of the difference in the pattern of visual literacy (drawing or instructional photos) on the development of concepts for seventh graders in the state of Kuwait?"

## 3. Methodology

A basic qualitative approach was used in this study because it matches the characteristics set by Merriam (2009) [9] for conducting research in the social sciences. A qualitative research methodology was chosen as the most suitable approach for this study [10]. This approach allows the researcher to describe, clarify, and understand the phenomenon; to identify patterns and themes, and to delineate an occurring process in the chosen phenomenon [9].

Our research design includes various qualitative data collection methods, such as interviews, observations, and document analysis. Additionally, the purposive sampling technique, also known as judgmental sampling, was used to select participants for this study [11]. This basic qualitative study is focused on how visual literacy and educational technology tools work together to facilitate access to content and create more interactive teaching methods.

### 3.1. Participants

The selection of teachers for this study was based on specific criteria, namely gender, expertise in technology, and teaching level, with a focus on middle school. To acquire a sample that accurately represents Kuwait, the participants were chosen from a pool of friends, family, and relatives who were asked to participate voluntarily and make visits to schools. Participant selection is a critical aspect of research design, because it directly impacts the validity and generalizability of the findings. We expected the total number of our participants would be 30–50 middle school teachers, and 47 participants completed the

survey. We used a combination of snowball sampling and convenience sampling techniques to recruit participants for this study. Choosing several schools from several school districts gives us confidence that we have achieved a reasonable amount of similarity between our sample population and the target population in general.

## 3.2. Instrumentation

A Likert-type scale was used for this study to understand the teachers' attitudes about their visual literacy and their levels of comfort in applying drawings and instructional photos. A 5-point Likert scale was used to measure the opinions of the targeted sample; these opinions could be about the degree of agreement or the level of occurrence or value [4]. A big factor for us in choosing the method was that it is widely used in the educational field [4]. The survey questionnaires consisted of 10 statements that were descriptive and inferential. The answer options included "almost all the time," "frequently," "sometimes," "once in a while," and "almost never."

## 3.3. Procedure

The quantitative data collections were conducted via electronic surveys. The teachers were motivated to complete the surveys by the researchers who personally visited and called them by phone to explain the potential impact of the successful completion of the study on the development of education in Kuwait. In addition, they emphasized that the participation of the teachers would contribute to their professional growth and would enhance their understanding of educational practices. The qualitative data collections were conducted through focus-group discussions. The focus-group discussions consisted of a carefully selected group of teachers, who were encouraged to openly share their experiences, perspectives, and insights related to the topic.

To ensure a diverse and representative sample, various methods were implemented to recruit participants for the study. We asked our friends and relatives to help us send and complete the survey and also to use social media to choose our participants from each school to avoid bias in selecting our sample. We predicted a 70% completion rate of our sample, which is an acceptable return rate for our study. The participants had sufficient time to fill out the questionnaire, and they used a 4–7-minute time frame to answer all 10 questions. The participants were also assured of their confidentiality and were informed about the purpose of the study, as well as about their rights as participants.

The sample was anonymous to prevent the research subjects from fearing accountability, so names were not required. We also recruited a female researcher to meet with the female teachers, and we made sure she was aware of the overall ethics for human subjects and realized the sensitivities of the cultural and traditional issues concerning females in conservative countries. This ensured that the participants' identities were protected and that the research was conducted in an ethically sensitive manner.

## 3.4. Data Analysis

We calculated the data from the final study to ensure that results were highly reliable [5]. We compared the sample of the target population to test the validity of our testing instruments. To see how the level of experience affected the outcome of the level of comfort with using a visual approach in the learning environment and to explore how much the outcomes related to the target population. After conducting the survey, the quantitative data were processed through a descriptive analysis with a percentage of each question of the survey results to describe the effect of the difference in the pattern of visual literacy. Using this approach helped provide systematic information about the reluctance of teachers to use drawings and instructional photos in the classroom setting. After that, data were analyzed and interpreted accordingly.

## 4. Results

The result of this study was unsurprisingly positive, showing significant awareness of teacher performance and engagement. The findings of this study highlight the importance of professional development for teachers and its impact on their approach to implementing visual literacy effectively. The teachers were excited about the research findings and hoped to ensure and promote their teaching style after generating results.

The completion rate, which in this study included 47 participants who completed the survey, was good enough to represent middle school teachers in Kuwait. Some important contributing factors resulted in this maximum completion rate. One such factor is that all the participants were close friends and relatives of the researcher. The questions were nonintrusive, mobile friendly, and conveniently delivered electronically. Only a small amount of time was needed to complete the questions. Only ten questions were carefully chosen from a pool of 30 well-researched questions that were approved by faculty members of the Department of Educational Technology at the College of Basic Education in Kuwait. The process of answering the questions was simple and only required a couple of clicks or taps to be fully completed, depending on the device of the user.

All in all, the process of completing the questions should not have taken more than 10 minutes at the most. The ratio of male participants was 45% and of female participants was 55%. Precisely 80% of the

participants were in the 27–40 age bracket. This particular age group is known to be neither too old nor too young to adopt technology into their culture or way of life.

To answer the research questions, we asked the teachers several questions to determine "Will visual literacy work better for conceptual classes and practicum classes?" We asked whether they used visual instruments in their teaching method to facilitate hard concepts, and 90% stated that they frequently did so. Also, 85% stated that they always used a visual illustration for conceptual classes. So, in essence, 95 percent had used a visual illustration for a practicum class (see Figure 1).

To answer the second research question, we selected some questions to determine the ability of the educator to apply visual tools as a technology strategy at any level of students' understanding. This question includes different points-of-view from the teachers. The first aspect was to state whether their visual tools worked for all students' levels, and 75% answered affirmatively. In addition, 100% of the teachers were using visual learning strategies for test review, and 95% confirmed that their visual strategies were used to increase the students' memorization (see Figure 2).
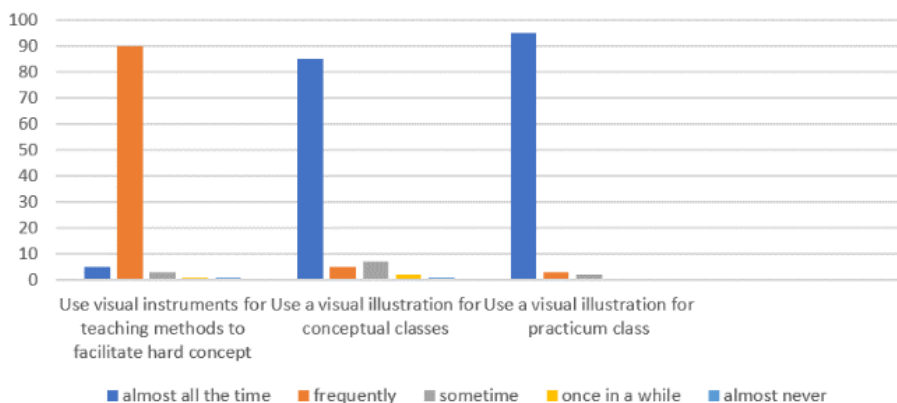


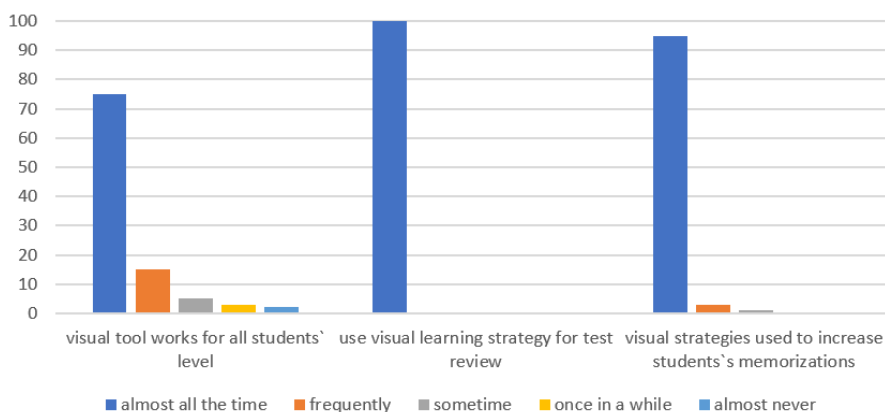Figure 1. Visual Literacy Works Better for Conceptual and Practicum Classes



Figure 2. Applying Visual Tools as Technology Strategy in Students' Understanding

The third question was asked to determine whether the drawings and the instructional photos improved students' understanding, and 55% of the participants mentioned that the students preferred a drawing explanation for class content, while 95% confirmed that students liked to see more instructional photos illustrating the subject. In essence, 90% of the teachers depended on the drawings and instructional photos as a teaching strategy (see Figure 3).

## 5. Discussion

The development of visual literacy in middle school students is influenced by the way in which visual information is presented to them. One important aspect of visual literacy is the ability to interpret and understand different forms of visual representation, such as drawings and instructional photographs.
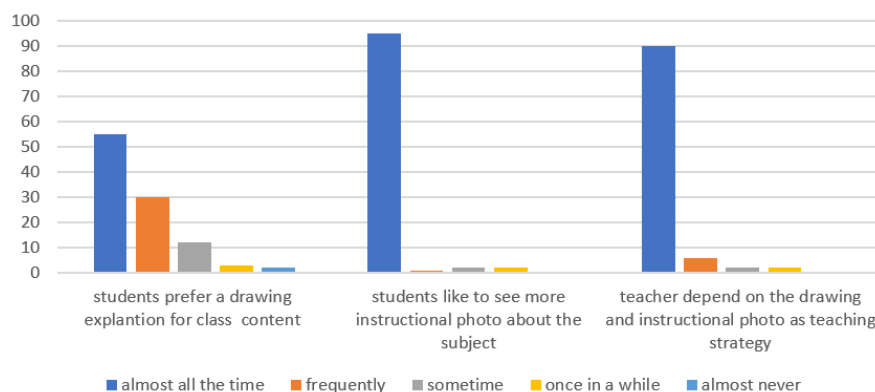
Figure 3. Improve Students Understanding with Drawings and Instructional Photos

These two forms of visual communication have distinct characteristics and can impact the way students develop concepts and ideas. By exploring the effect of the difference in the pattern of visual literacy between drawings and instructional photos, we gained insights into how this difference impacts the cognitive development of middle school students.

In addition, their development is influenced by the patterns of instruction provided, whether through drawings or instructional photos. The way in which information is visually presented can impact how students understand and construct concepts. This is an important consideration as educators aim to enhance students' visual literacy skills. By understanding the effect of different patterns of visual literacy on concept development, educators can better design instructional materials and strategies to support student learning.

It was clear to the researchers that although each teacher had developed their own beliefs and strategies, there is a need for curricular materials and guidelines to support teachers of visually impaired students in visual literacy instruction beginning in the early grades [14]. Zebehazy and Wilton suggested that early development of skills that help students understand graphics is important for later success. Developing visual literacy skills in visually impaired students at an early age is crucial for their academic future [14]. Visual literacy works better for conceptual classes and practicum classes. Visual literacy can indeed be highly effective in conceptual classes and practicum classes. It allows students to visually understand and interpret complex concepts, theories, and practical skills. Moreover, visual literacy helps students to make connections between theoretical knowledge and real-world applications.

These connections can enhance their understanding and retention of information, as well as their ability to apply learned concepts in practical settings. Visual literacy in conceptual classes and practicum classes can greatly enhance students' learning experience. A study conducted with elementary school students found that the integrated model of visual literacy and reading literacy had a positive impact on their skills in writing descriptive paragraphs [7]. The ability of the educator to apply visual tools as a technology strategy for any level of students' understanding is crucial for promoting visual literacy [14]. Educators play a vital role in promoting visual literacy by utilizing visual tools, such as technology strategies, to support students' understanding at any level. By incorporating visually engaging tools and technology strategies, educators can effectively enhance students' visual literacy skills. These tools enable educators and researchers to teach more effectively; therefore, they must be interactive, user-friendly, and accessible both in the digital and web environment [6].

Additionally, research shows that integrating literacy strategies, such as the Frayer Model, Word Map, and IChart, with technology can provide active models and allow teachers to vary the content, process, and product of instruction [15]. Instructional photos improve students' understanding of complex concepts and processes because they can see real-life examples and step-by-step demonstrations. Drawing, conversely, allows for a more simplified and abstract representation of information, which can promote creativity and conceptual thinking. By using both instructional photos and drawings in the classroom, teachers can cater to different learning styles and provide a well-rounded visual learning experience for middle school students. This approach allows students to engage with visual information in different ways, enhancing their overall visual literacy skills.

The use of both instructional photos and drawings in the classroom can have a positive impact on the visual literacy skills of middle school students. Instructional photos improve students' understanding of complex concepts, and students like to see more instructional photos about the subject. In addition to improving understanding, the use of instructional photos can also enhance students' engagement and interest in a subject. Research has shown that students are more likely to be motivated and excited about

learning when visual aids, such as instructional photos, are incorporated into the curriculum. By providing a visual representation of complex concepts, instructional photos help students make connections between abstract ideas and the real world. This not only helps them grasp the material more effectively but also encourages them to explore the subject further.

Furthermore, the inclusion of instructional photos can promote critical thinking skills among students. By analyzing and interpreting instructional photos, students are encouraged to think critically about the visual information presented. They are prompted to ask questions, make observations, and draw conclusions based on the visual evidence. This process of critical thinking allows students to develop their analytical and problem-solving skills, as they learn to approach visual information with a thoughtful and investigative mindset. Additionally, instructional photos can facilitate collaboration and teamwork among students.

## 6. Conclusion

In brief, through instructional photos and drawing, students can engage in discussions and share their interpretations with their peers. This collaborative approach fosters a sense of teamwork and encourages students to consider multiple perspectives and insights. It also cultivates their communication and interpersonal skills, which are crucial for success in future academic and professional settings. Moreover, the use of instructional photos in education can expand students' global communication and media knowledge. In today's digital age, visual literacy is essential for navigating and understanding the vast amount of information and media that students encounter daily. Exposing students to instructional photos makes them more familiar with the visual language and cues used in the media, helping them develop media literacy skills. Overall, the use of instructional photos in education enhances students' visual literacy and cognitive development.

The study explored the impact of different presentation patterns, specifically drawings and instructional photos, on the development of visual literacy in middle school students. It promotes teachers' performance inside the classroom So, we hope that by conducting this study, we have acquired the necessary data to guide the decision-makers in the Ministry of Education in Kuwait to make the right choices for increasing the use of visual learning in educational settings, and therefore, we hope to make a big impact in the educational field in Kuwait nations. This study clarified the experience in technology and technology tools as variables that have strong effects on the development of the teaching system and therefore should be taken into account. By examining these different presentation patterns, we can gain insights into which method is more effective in promoting visual literacy skills among middle school students.

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