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Visual Approach and Design: the Appropriate Characteristics of Instructional Photos as a Tool to Support Elementary Setting in Kuwait

Ali Buhamad
University of Northern Colorado

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VISUAL APPROACH AND DESIGN: THE
APPROPRIATE CHARACTERISTICS
OF INSTRUCTIONAL PHOTOS AS
A TOOL TO SUPPORT
ELEMENTARY
SETTING IN
KUWAIT

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

Ali Buhamad

College of Education and Behavioral Sciences
Department of Educational Technology
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has been approved as meeting the requirement for the Degree of Doctor of Philosophy in the College of Education and Behavioral Sciences in Department of Educational Technology

Accepted by the Doctoral Committee

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Mia Kim Williams, Ph.D., Research Advisor

_____

David S. Kendrick, Ed.D., Committee Member

_____

Christine D. Kyser, Ph.D., Committee Member

_____

Anna Ursyn, Ph.D., Faculty Representative

Date of Dissertation Defense_____

Accepted by the Graduate School

_____

Linda L. Black, Ed.D.
Associate Provost and Dean of the Graduate School and International Admissions

ABSTRACT

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This study provided a guide for appropriate characteristics of Instructional Photo to be used by teachers, trainers, coaches, instructors, and anyone else who desires to deliver knowledge and present content with visual meaning to elementary students in the state of Kuwait as a teaching style that supports teachers, facilitates clarification, and gets the learners' attention and motivates them. This study used a basic qualitative method. The participants in this study were two teachers and two photography artists from Kuwait who had at least 10 years of experience in both fields and were selected from researcher relationships. The data collection was using electronic interviews conducted personally with each participant, using email as the instrument that collected open–ended responses. Based on participant responses, analysis showed that Instructional Photo characteristics must contain clear ideas and messages and must be interesting to the learner in terms of delivering knowledge with less explanation and effort by the teacher. The size of the instructional photo must be appropriate and must match the class size and population. The instructional photo must appear as a piece of art, which means it must have the correct colors and balance that includes hot colors for the main elements. It must have clear shapes and must be a good representation of the learner's environment and include engaging elements that increases student interest in the content. Instructional Photo must

use documented and preferably local and journalist photos. Future research could include additional qualitative techniques such as observations of the application of different types of Instructional Photo or using a quantitative approach to identify new or additional instructional photo characteristics.

TABLE OF CONTENTS

CHAPTER I

INTRODUCTION

In our pedagogy field there are some issues related to learning environment and their effect on student performance in positive or negative ways, such as students feeling jaded about the class content or uninterested about the teaching style. Therefore, it reflects on students' regard for school or the students' curiosity for gaining knowledge. It is very important to know how learning occurs in order to find a way to solve these issues. In humans, learning occurs in formal and informal settings. The human learns every day, even if she/he does not want to, because humans are always impacted by different internal and external sources in their daily lives. Fetuses, infants, children, and adults learn. Thus, learning is not related to a specific time or place, but it is cumulative and incremental because it increases the individual`s information, behaviors, skills, and values, all which include producing different types of knowledge (Karban, 2015). Learning does not happen all at once, but is constructed upon and shaped via prior knowledge. It is not a collection of factual and procedural knowledge, but learning is a process of getting new knowledge *(*Schacter, Gilbert, &Wegner, 2011).

Some researchers advise that learner operations should start at a very young age because they help the kids to makes sense of the world. That early learning should include some activity that establishes meaning while reading texts, cooperating with the environment, or conversing with others kids (Wilson & Peterson, 2006). Learning is a

result of psychological educational processes that come from environmental experiences, and it targets knowledge or tendencies, values, and behavioral skills in order to increase them. In addition, it assesses changes in behavioral action and cognitive processes that occur in individuals as an outcome of the human interaction with his/her environment, and it targets and changes human behavior through maturation, disposition, motivation, and experience (Cherry, n.d.).

The definition of learning from the learners' perspective is the increase of knowledge, by experience, and the ability to achieve goals when obstacles occur (Washburne, 1936). Learning is known as any action or activity that learners do that they were not able to do before; therefore, they prove they know something new. Individuals may assimilate a lot of things from several sources such as culture or groups of individuals that are around them or to which they feel they belong (Driscoll, 2012).

This study aimed to describe, in detail, an appropriate learning and teaching tool that could be used as an affective instrument for elementary students in the state of Kuwait. This study focused more on the visual approach of educational technology tools serving as a bridge to deliver and explain knowledge to students. Specifically, this study targeted the identification of the appropriate characteristics of the instructional photo as a teaching strategy that helps teachers facilitate the explanation for and gets the learners' attention on knowledge and makes the lesson interesting to students.

To achieve the study's target, it was paramount to know that the best way to let learning occur is by allowing the learning operation to work in a systematized way, which means through a mixed approach with learning theories. Theories in the pedagogy are known as a set of guidelines that are connected to phenomenon and lead to concepts,

assumptions, and progressions that are correlated to each other in order to begin organized ideas around this phenomenon. In other words, they are a group of philosophies and concepts that attempt to explain events and consequence, offer predictions, and lead experiments. Theories, overall, are propositions that reasonably link together in order to exam or explain a relationship among two or more variables. Also, a theory may be an overall viewpoint of how an individual understands and interprets his/her thoughts (Abend, 2008). So, there are no correct or appropriate theories that continually work completely, but they can determine outcomes from an investigation, and they aim to expand knowledge and experience. Theories introduce a general clarification for comparable actions made over time.

The learning theories are an assemblage of philosophies that concentrate on explaining how individuals recognize knowledge and interact with the environment. All of those learning philosophies are still under expansion and are still being used. The psychological perspective says that the learning theories originate from the significance of the learner`s experience and communication with the world; therefore, this action is known as an individual process because each individual interacts with the environment in a different way. Hence, learning theories chief to the improvement of the skills and the abilities to implement those skills in practical ways (Driscoll, 2012).

Learning theories can clarify the performance of a group of students who have a common purpose or intent and who are engaged in practice; thus, they can distinguish learning by the process that influences the same member of the learning group (Driscoll, 2012). These theories promote our clarification of our environments, the way we read and receive encouragement, and the way we interact or perform. Learning theories aim

to support instructors in order to design learning-appropriate environments for students, and they may limit our orientations or change them in terms of the understanding of students' reactions. These theories concentrate on repetition and intrinsic value to improve learning and promote the external and internal motivations in order to make the learning happen. Therefore, learners will develop better learning by practicing what they have previously done or by modeling the developed knowledge and experiences. Moreover, when they notify that the content or the strategy is meaningful to them, they will link the material to their own knowledge. Therefore, understanding those theories will help the educator choose the best teaching style supported by educational technology to gain student attention on the content.

Learning Environment and Style

The learning environment, these days, needs teachers for more than their writing and reading teaching ability. Teacher skills should involve an aptitude to analyze visual transportations. Literacy, in any form, augments a person's competence to be a real and creative communicator (Hess, 2011). The learners must focus their full attention on the instruction and the class content, but when students' reverie for a few minutes, he or she may lose the whole point. At the same time, it is difficult for teachers to meet all students` needs, even with serious efforts and the greatest intentions. Therefore, many students never comprehend to their full potential (Stearns, 2013). So, changing and selecting the appropriate method and preparing the appropriate environment in order to make the learner involved is the teachers' responsibility (Shanmugasundaram, Juell, & Hill, 2006).

When students get just one type of explanation or teaching style or the teacher just focuses on one set of knowledge and skills, the learner is unable to go beyond the scope

of education content. As a result, the learner will have difficulty understanding the other

aspects of the subject and find it tough to link the knowledge with other related topics

(Eberly Center for Teaching Excellence and Educational Innovation at Carnegie Mellon

University [ECTEEI] n.d.). At the same time, the educator may face an issue that relates

to the student. They are not able to pre-request the knowledge when they need it. This is

a result of the cognitive load and teaching the content in one direction such as only

delivering the knowledge orally, without any activity that allows the learner to practice

the experience (ECTEEI, n.d.).

Teaching without technology leads the students to miss countless educational

potential. Therefore, that approach prevents the learners from personalizing and

extending knowledge and experiences, such as students becoming concerned with each

other or increasing the sense of social belonging and peer group backing that can help

learners` educational accomplishment, persistence, and achievement in their field

(Greenhow, 2011). The educators trust in using this method and stimulating the learner

through direct experiences from the instructor and the activities inside the classroom

(Standridge, 2002).

Educational Issues

The educational issues are different from country to country or even region to

region. According to ECTEEI (n.d.), the educational issue can be related to the students`

attitudes and motivation. Students who showed a lack of motivation or interest were led

to consider the course or content as having little value, they may believe that their efforts

will not increase their performance or that they are not related to life experiences, or they

may even have other staff that contend for their attention. In addition, repetition is a

common strategy that is used. However, repeating the knowledge and using old-style teaching methods may lead the learner to feel jaded about the class content (Walmsley & Muniz, 2003). This teaching method may lead students to perform poorly on a test because the exam was not related to the activity that they did in class or because there was not an activity to increase the students' knowledge (ECTEEI, n.d.).

Effective learning is learning that is flexible and able to be changed in multiple situations. Policies, methods, and procedure can make the learner clearly observe the positive difference at different levels in educational settings as well as a constant variation of teaching styles. At the same time, it is important to keep in mind that the change should consider certain aspects of society, religion or state (Akram, Sufiana, & Malik, 2012). Through the years, the educational field has been improved a lot in areas including teaching styles and methods and also in the development of tools that help teachers. Psychology supports changing the methodology of teaching because it allows the teacher to improve student achievement (Akram, Sufiana, & Malik, 2012).

Educational technology as a field is responsible for improving the operation of education because it includes groups of principles and ideas that focus on the technology used in educational settings (Bratton & Bell, 1979). It can lead the teacher to work as a conduit that aims to let the learner understand, construct, and realize the knowledge explained in the classroom (Kim, 2014). In other words, educational technology is the utilization of education tools that improves the progression of learning in order to explain and simplify knowledge. Therefore, the reflections of using this approach will definitely affect learners` motivations and make the learning and education process interesting for educators and learners. In addition, an educational technology approach knows the

strategies of how we carry and simplify knowledge. It is an implementation of the theory and practice with this strategy (Reiser, 2012). Psychologists support the idea of changing the teaching method and applying some activities in classroom in order to decrease the unwanted behavior of the students (Nabors, Little, Akin-Little, & Iobst, 2008).

Problem Statement

In Kuwait, the education issue comes from the curriculum. The Ministry of Education decided to mix the curriculum of western countries into their own educational systems in order to promote improvement. However, progression in knowledge and technology fields is a dire target for the Kuwaiti government as scientific and technological prosperity are considered crucial in order to improve standard of living (BouJaoude & Dagher, 2011). Ministry's efforts focused on curriculum development by programmers with limited attention to assess the real practices inside the classroom (BouJaoude & Dagher, 2011). The adoption of the curriculum happened because the Kuwait government wanted to expand and change the educational landscape including school governance (moving from public to independent schools), language of education in mathematics and science (Arabic to English), and the traditional teaching methods in order to make it work more to enhance the research and critical thinking skills (BouJaoude & Dagher, 2011).

The adoption of western curriculum happened, but they did not take into account the awareness of the teachers or provide the tools that would help him/her expand the explanations for students (Al Mamun, 2014). Some researchers showed that the instructors had difficulty explaining the content without having been trained or having attended any workshops; therefore, the teachers just delivered the knowledge to students

in a boring way, and the students found it very hard to understand (Roth & Lawless, 2002). Therefore, the learners were not able to make any links between the content and their background, which included their own culture and their own community, so the result was difficultly in learning (Alshammari, 2013).

The majority of Kuwaiti teachers think the adopted curricula are not fitting, and they have not been provided with new knowledge that relates to their learners' backgrounds. They miss the facilities that assist them in achieving positive learning (Alshammari, 2013). Therefore, the current adopted curricula are barriers for improving the learning setting. They also negatively reflect on students and their teachers and eliminate the improvement of teaching methods (Roth & Lawless, 2002). Those adopted curricula depend on context and exclude cultural and social factors because the teaching method of such a curriculum is not effective enough to meet the desired achievement. At the same time and in their own countries, those curricula improve learner skills and help learners discover and increase knowledge because the teacher has enough facilities to work with this kind of curriculum. So, what those curricula need are just a way of teaching that mixes the learner's background with the content and allows the learner to better understand the concept for a longer period of time (BouJaoude & Dagher, 2011).

The issue with Kuwait education includes two aspects. The first one regarding the current Kuwaiti curriculum "Grades 6 and 7" requires more change and improvement, and it should include technology tools (Alshammari, 2013). The second one related to the difficulty that came from a superiority in science education, shown in outdated courses, and the methodology of teaching that focused on theoretical science content and did not care about or provide practical activities, or limited access to applicable technology tools

that might help the teacher's task and, therefore, lacked teacher support (BouJaoude & Dagher, 2011).

According to Alshammari (2013), the content of adopted curriculum was not adapted to Kuwaiti culture and society, and many lessons, examples, and pictures did not represent the learner's culture and environment. Therefore, the teacher was forced to teach this content in boring ways, and the results reflected poorly on students. In this case, the teacher used some teaching tools, but with the wrong content and that, in essence, was the real problem. For example, in a science class, the content about different kinds of animals that live in western countries, including pictures that show the neuter of this animal, did not make any sense to Kuwaiti leaners because this type of animal does not live in their environment.

Research recommended that the teachers needed to practice a different way of teaching methods that conform with curriculum in order to promote the learning style of the students in order to provide an admission to his/her students, which lets the students blend the curriculum content with their social and cultural background (Al-Duwaila, 2012). Results of Al-Duwaila's study showed that there were numerical differences between characteristics of teaching methods in public schools of Kuwait compared with private schools in some curriculum because of the components of the education and environment that included technology and media, which lead to the students' achievement (Al-Duwaila, 2012).

Photography as Instruction

Photography as a media and as an educational technology tool has the function to improve the educational setting and develop the teaching style. Research that relates to

memory function and brain development showed that people's memories of pictures are far stronger than their verbal memories (Wirth & Perkins, 2008). Other research showed that the application of multimedia for teaching language or theories classes or learning literature supported the insertion of visual aids in teaching that allow trustworthy communication among learners and literary texts (Yunus, Salehi, & John, 2013).

Pilot study

According to my research conducted in the fall of 2014 (Buhamad, 2014) about how teachers perceive the use of instructional photo methods for complex content with first-grade students, memorization was the most important skill that most first graders need in order to strengthen their new knowledge and explain the content from their perspective. Also, it enabled them to move into the deeper content as they moved up in grades. Thus, students have to have this solid foundation, which helps them in their future. Educational tools are needed to deal with different types of learners.

A science teacher, one of the participants in that study, started using the white board to expand the knowledge. Most of the science students were not paying attention to the theoretical introduction, and few students started to participate with this teaching method. The attention of all students increased when the teacher said to them, "I will show you some pictures." She showed them a picture of a solid state, and then the students started to discuss it and gave examples about solid stuff from their experience (Buhamad, 2014). Another participant was a history teacher. She believed that the knowledge that she was teaching was necessary for future grades, but at the same time, history content was hard to put in perspective (e.g., how long ago that really was). She used to teach this class by telling stories to make the students excited with history and by

sharing exciting facts and mixing that all together. The history teacher asked the students

a few questions, and just two students answered her question. When she showed a bay

picture to them; most of the students kept their eyes on the screen to figure out the details

of that picture (Buhamad, 2014).

Teaching first-grade science content supported by educational pictures made the

science students open a new discussion about the pictures' content that would lead them

to visual thinking, and then the students were able to tell an example from their own

experience that related to the photo content. The educational pictures improved the

teaching method and stimulated the students' experiences with some activities in the

classroom, and that led to increased understanding (Buhamad, 2014).

One participant in that study described the experience of using Instructional Photo

in her class:

> After this amazing tools, I believe showing lots of pictures and lots of books and
> telling real life stories will connect the content because they seem to remember it
> better. So, I think having those pictures was very helpful and added more visuals
> to my other unit. In first grade, we do a lot of pictures because they cannot really
> read yet. So, I make sure that I have high-quality photos to show them. I could
> tell the kids got it, and obviously they did understand. I just feel like showing
> pictures is super important. I cannot just stand up and say this is solid and not
> give them an example of it. I think using the photo there engaged them much
> more, and they were able to apply it to their own life. They will also apply that
> they know that it is the liquid, solid, or gas. It seemed that more kids are more
> visual at this age. So, if you are visual with it, they are more likely to remember
> it. (Buhamad, 2014, p. 13)

The instructional photo as a tool helped because it looked more realistic, like real life,

rather than non-realistic maps, especially the photo that had nature details. In addition,

the learners were able to respond and interacted well with the instructional photo. Also,

students needed to see more than to hear or write because some students are so visual,

and they recognize the details from pictures. In other words, if it helped them to

understand the content and picture it in their minds, then maybe it will be a part of their long-term memory (Buhamad, 2014)

Purpose of the Study

The purpose of this proposed study was to describe characteristics that make a photograph instructional in order to guide the instructors' selection of appropriate instructional photos to present the content with visual meaning for elementary students in the state of Kuwait as a teaching strategy that helps teachers facilitate the explanation and gets the learners' attention for the knowledge and makes the lesson interesting to them. The purpose of this study was recommended by previous studies that considered the different kinds of educational images that may lead to different attitudes. Insight gained through students' experiences is central to additional considerations when choosing images for instructional interventions, but not solely educational interventions (Hess, 2011). The culture of the learners is considered and influences the chosen images that are used in a particular educational setting. A lot of variety of world cultures could extend understanding of these influences on image selection; therefore, the educator should understand his/her students' culture when he/she uses educational images (Hess, 2011). A valuable result from a reasonable study was that it is very important to know how the teacher chooses or considers the properties of the educational images (Hess, 2011).

According to Hess (2011), the future researcher could use different types of images or different content in the images to examine how the participants choose one of the given images. This recommendation proves the importance of the Instructional Photo and how it can interact with learners. Therefore, establishing the appropriate characteristics for this educational instrument becomes essential.

Exploring the latitude of knowing how educators choose the best image is appropriate across occupations, cultures, and educational interventions. It is also the next reasonable step in increasing the research literature results from research that defines extra criteria and questions for consideration for the selection of photographs useful in an instructional setting (Hess, 2011).

The photographs could be examined in a related manner by exploring the number of visual elements present. Future studies should determine the serious point of the chosen image to reach the students' memory because not all photographs have essential information. So, it is necessary to know about photography styles or types that determine the points within the photo

Research Questions

This study explored the strategy that the teacher should follow when he/she chooses an instructional photo. The different research questions on which this dissertation focused were:

Q1   How do instructors select instructional photos?

Q2   How do instructors teach students to critique visuals for meaning?

Q3   What characteristics make a photograph instructional?

Q4   How does a background in photography influence pedagogical decisions?

Significance of the Study

This study investigated the properties of Instructional Photo (IP) for instructional designers or instructors when selecting photography in order to have interesting visual learning as part of an instructional solution. Knowing the type of knowledge and skill sets required to navigate an international knowledge-based culture is a major subject in the Kuwait educational system (Dede, 2004). Therefore, knowing how to transfer visual

meaning and relate it to class content may improve learning and may be an important part

during the instructional design processes. The visual information helps the human brain

process the content 60,000 times quicker than in information offered in regular text

(Gangwer, 2009). Visual teaching tools, such as photographs, have been shown to be

powerful tools, not just for young learners, but also for adult learners (Alesandrini, 1984;

Cook & Dupras, 2004; Russell, 2006). Definitely, the issue does not come from the

photograph, but from the failure of choosing the appropriate instructional photo.

Instructors and instructional designers do not have standards to create visuals tools that

successfully represent abstract concepts, especially if visuals are used to simulate the

reality for learners in terms of culture and background. Results of this study might offer

standards to answer what educational and visual characteristics instructors or

instructional designers should consider when choosing Instructional Photos, and it might

provide a different type of criteria for effective Instructional Photos used in educational

interventions.

Summary

This chapter shows the meaning of learning in order to help the researcher

identify the best teaching tool that matches the essential meaning of learning. Also, this

chapter describes the learning theories as an approach that helps to offer a solution for

educational issues, such as those that occurred in the state of Kuwait when the Ministry

of Education decided to mix the curriculum of western countries with itsown educational

systems in order to promote improvement. At the same time, it is necessary to take into

account the current learning environment which needs teachers for more than their

teaching of writing and reading abilities because when students get just one type of

explanation or teaching style or the teacher focuses on just one set of knowledge and skills, that prevents learners from achieving the target of education. The main issue is that some teachers use Instructional Photos, but they use inappropriate ones. The purpose of this study was to describe characteristics that make a photograph instructional in order to lead the instructors to select appropriate instructional photos as a teaching strategy to present the content with visual meaning for elementary students in the state of Kuwait and that helps teachers facilitate the explanation and gets the learners' attention for the knowledge and makes the lesson interesting to them.

CHAPTER II

LITERATURE REVIEW

Educational Technology

Some researchers showed that using technology may be more helpful than old-style teaching methods because it can offer and support individual instruction (Barrow, Markman, & Rouse, 2009). B. F. Skinner assumed that by understanding individuals' environments, we can understand individuals' actions. This means that the behavior of individuals is related to their environment (Driscoll, 2005). Skinner separated behavior into two categories, the behavior response and procedural behavior. Response behavior means the connotation with external action, but the procedural behavior is connected with internal action. Both behaviors may be associated to some stimuli that are able to influence this behavior (Driscoll, 2005).

Skinner thought that change in behavior happens in the environment that signals the suitability of the given behavior. For example, a driver slows down when he/she sees a stop sign. This is considered correct behavior. The repeated consequences may also affect the person's behavior. For example, students will be more likely to pay attention in the classroom and, therefore, more likely to follow the teacher's instructions if they have received a smile from the instructor (Driscoll, 2012). The educator can use these learning theories as an approach along with technology to find out the best way to teach students.

It is significant to find a way that allows instructors to work through their students' thoughts in order to grow student understanding. This is necessary to change the learner's actions that appear while neglecting those actions that do not, such as thoughts or feelings (Standridge, 2002). For that, the teaching style or the transferring and explaining of the knowledge should improve a good setting for learning that includes communication between knowledge and art, between exploration and appearance, or between actions and thoughts (Januszewski, 1996). According to Duppenthaler (1987), explaining the activities as an approach to improve learner motivation, and participation in the learning procedure leads to collaboration among the learners (as cited in Hwang & Embi, 2007). Whitehead (1968) said that to have successful teaching, the teacher must be familiar with different teaching styles and a variety of techniques and must prepare some activities that encourage and improve students' interest in literature or knowledge (as cited in Hwang & Embi, 2007).

Technology has an impact on our life in many different aspects, especially in education or delivering and explaining knowledge. The education process is considered a socially oriented activity, and the traditional teacher/learner relationship allows teachers to have a high degree of personal contact with learners. Thus, applying technology in the educational field would increase communication and provide more student-centered learning settings (Abbas & Seyedeh, 2011). Technology, overall, has come to smooth our lives. So, by applying it in educational settings, it will simplify the knowledge and educational material to be learned such as providing smaller units in order to allow teachers to observe student behaviors while they interact with activities inside the classroom. These activities allow the instructor to offer quick responses, which

encourages learners` good behaviors. The uses of educational technology is aimed to offer a lot of functions that permit the teacher to make links between the knowledge and the symbols or the content and tie the students with their own environment by transferring learning (Barab, Hay, & Duffy, 2000).

The technology invention is rapidly running into digital media and information; therefore, the need for applying technology in education is becoming more and more important, and this importance will continue to increase and develop in the upcoming years (Abbas & Seyedeh, 2011). Technology in education can provide and work with direct experiences and encourage the students by psychological conditioning, inside or outside the classroom, to construct the knowledge that will likely deliver change in daily habits. So, in this case, an educational technology approach will have students interacting with interesting methods and receiving the lesson through their motivation. The reason why individuals forget information is a weakness in reviewing or delivering that knowledge. Individuals' capability in long-term memory is unlimited (Orey, 2001). According to Lazar (1993), using a teaching methods that focus just on the content of the curriculum forces the students to scan the history and the properties of the literature ranging from the cultural, social, political, and historical background to a text, therefore, providing a large effort from the teacher to his/her learner (as cited in Hwang & Embi, 2007). Education and teaching methods can be changed by using information communication technology which allows the transportation of new capabilities and capacities to learning and helps engage student's attention with the required content (Abbas & Seyedeh, 2011).

Using technology, changing the teaching method, and applying some educational technology tools can solve pedagogy issues and equalize the differences among the individuals, which gives the learners entry to the instructional content. This approach is known simply as the plan of learning through the difficulty of assistive devices (Hune, 2004). Mixing these tools with teaching methods provides an ideal plan for individualizing instruction for learners who need modified instruction applied to their understanding for different areas of their academic interests (Hune, 2004). Some educators are familiar with several forms of software/hardware that may explain and support their knowledge content in their classrooms. Therefore, the learners with educational technology tools can improve their capability to understand without requiring memorization of the content or knowledge (Hune, 2004).

Utilizing technology tools as a teaching style caused an increase in academic achievement because it was able to construct an active learning environment, which created greater academic improvements than did learning in a regular or traditional classroom (Hove & Corcoran, 2008). At the same time, instructors who used and applied educational technology tools more effectively achieved their educational target more often than instructors who did not use that educational approach (Hakverdi-Can & Dana, 2012). The fraternization of knowledge with communication technology in education leads us to higher levels of perfection in teaching and learning processes (Abbas & Seyedeh, 2011).

Using teaching tools by applying an educational technology approach would improve the learners' experience as a result of the educator's understanding of the best learning style for her/his students. Eventually, the learning operation will become more

dynamic. Therefore, one of the teacher's tasks is to realize the appropriate educational styles of the learner that allow him/her to apply appropriate teaching techniques (Hwang & Embi, 2007). According to Richards and Rodgers (1986), the different philosophies of teaching are reflected through a variety of styles for activities and in different uses for activity styles (as cited in Hwang & Embi, 2007). The learners should feel that the knowledge they are learning is valuable, meaningful, and relevant. Therefore, the teacher needs to stimulate the knowledge by using some technology tools and to care about those tools that he/she uses to meet the educational target by applying different blends of teaching methods, which will reflect on the classroom environment, in order to produce stimulating and interactive experiences (Abbas & Seyedeh, 2011).

Learning motivation and successful learning are outcomes of enhanced emotionally stimulating instructional materials. So, the success of an educational technology approach may be due to the learners` preferences for technologically improved and visually stimulating educational designs (Hove & Corcoran, 2008). The growth of technology, in general, is reflected in policies to increase its use in education and in the expansion of educational multimedia uses. Therefore, teachers need to have an idea about the important role that multimedia has in education and know about the potential it affords for teaching and learning (Abbas & Seyedeh, 2011).

Using technology as a teaching style supports and helps engage students by motivating and challenging them. It can develop more positive attitudes towards their learning and themselves when the learner interacts with technology and increases their interest in the learning experiences (Abbas & Seyedeh, 2011). This interaction with multimedia features can be used to support students and expand their concepts and ideas.

Therefore, the students might be more willing to interact with similar knowledge and

experiences within a variety of contexts in which technology is applied (Abbas &

Seyedeh, 2011). Hence, technology tools would work to grow student productivity since

these technology tools offer a support for learners to facilitate their tasks and allow them

to focus on the core purpose of the activity that they are doing. The teacher and students

will save effort and use less time so that their output rises when the teacher provides them

with some technology tools and lets them work comfortably with issues that may have

previously been considered too difficult for their ability (Abbas & Seyedeh, 2011).

Applying the technology approach as a teaching method builds student independence.

The teacher may chose different types of educational technology tools such as photo,

video, software, games, etc. and give access to an excellent variety of learning

experiences to his/her students as they need it. According to Grégoire (1996), it is not

necessary to teach the class as one group. Students may choose learning experiences

independently of the teacher (as cited in Abbas & Seyedeh, 2011).

Multimedia

The most important role that technology plays in education is providing

multimedia to smooth the teaching environment and support learning needs that help

change teachers' methods. So, teachers tend to apply technology because they perceive

that in doing so, they will offer even better environments (Abbas & Seyedeh, 2011).

Therefore, this approach: (a) provides a wealthy access to information, leading to better

interest in education and experimentation; (b) creates an environment that requires more

association and more communication with the instructor, administrators, and parents; (c)

requires the teacher to do more planning and preparing; and (d) forces the teacher to develop his/her skills and knowledge of technology (Abbas & Seyedeh, 2011).

According to Mayer (1997), multimedia as a tool of educational technology is designed according to the operations of the human brain and, therefore, is more likely to provide meaningful learning than when using those messages that are not (as cited in Hess, 2011). The cognitive theory of multimedia learning assumes that information processing systems include twin channels for visual/pictorial and auditory/verbal processing, and that dynamic learning contains a coordinated effort between the two. Therefore, the learner understands text with images through a selective method of choosing relevant words, building a verbal representation, and then organizing chosen verbal information into a verbal mental model of the condition described in the text (Hess, 2011). For example, students choose applicable images to his/her need, produce a pictorial representation, and organize pictorial knowledge into a visual mental model shown in the image. Therefore, understanding the picture is dependent upon interaction between higher-order cognitive processes and visual perceptions (Hess, 2011).

According to Paivio (1971), the cognitive theory of multimedia learning came from the idea that humans have two separate channels for receiving information: one for verbal representations and another for visual representations. The principle of multimedia highlights that learners will learn better from words and pictures together than from words alone (Mayer, 2001). The learners will have opportunities to build their own verbal and pictorial mental models and will then be able to connect them if they think via words and images together. Images show information in a natural method and

works with visual sensory experience, and it allows nonlinear representations in a holistic mode (Hess, 2011).

Another principle of multimedia is focusing on organization and presentation of the knowledge that prevents presentation of information in a random way. At the same time, the educator should consider the psychological procedures that aid the learning process because the target of psychology and education is to improve the science of instruction aimed at understanding how to present material through methods that help students increase their knowledge (Hess, 2011). The concept of multimedia learning includes some psychological elements. For example, there are two separate channels for the processing of verbal and visual material in the human brain, and those channels deliver a limited amount of data at one time. So, learning depth rests on the cognitive processing functions throughout the period of the learning process (Mayer, 2008).

Those principles facilitate the learning procedure since learning is a personal experience that occurs once we are provided with relevant material and organized education material and education material is presented in a manner that ensures that it is stored in long-term memory (Mayer, 2008). For that, the need for educational tools is more than the traditional textbook examples or old-school tutorials and other methods of knowledge communicating (Hess, 2011). According to Mayer (2008), there are five essentials that lead to active multimedia learning; logic, therefore, removes extra materials that are not needed during the learning practice, highlights only important elements, eliminates on-screen text with narrated animation, places the right printed words next to related illustrations, and shows the narration and illustrations to apply the temporal contiguity to simultaneity. The main beliefs of multimedia instruction establish

the reciprocal association between the science of learning and the science of instruction (Mayer, 2008).

Around us, the uses of media in society have been significantly increasing and are impacting the educational field, too. Multimedia learning created from a blend of text and imagery in the form of illustrations, animation, video, and photos has increased in company (Mayer, 2008). It is very important to show how educational technology changes teaching practices as well as the ways in which students learn. It is central for assessing its effectiveness and for the evolution of better teaching tools. Theoretically, then, the teacher will not be the center of the instruction and only source of knowledge as is the case in the conventional classrooms (Abbas & Seyedeh, 2011).

Educators should be sensitive to the methods by which technology use can affect outcomes and must consider the methods in which individual variances change the use of technology as well as the learning processes and results (Abbas & Seyedeh, 2011). Instruction is a science requiring improvement of tools that prepare necessary cognitive processing functions at the exact time of education (Mayer, 2008). That will help the educator ensure learners are learning and taking in presented knowledge without being cognitively overloaded with unnecessary details that concern the teacher. To do that, the instructor should drop any unnecessary cognitive processing and work on administration of cognitive processing necessary for learning as well as increase the necessary generative processing (Mayer, 2008).

Today, across all levels of education, learners come into the classroom with a convinced level of familiarity that allows them to deal with digital tools and platforms. That increase in the use of digital media and teaching tools opened our minds to retest the

power of teaching critical thinking and analysis through traditional teaching methods such as paper, writing, reading, and examinations (Mihailidis & Cohen, 2013) Technology teaching tools facilitate learning practice. By using this approach, learners are able to participate in and expand their environment. They can be independent and freely choose the tools that are offered that provide access to the resources. As a result, teaching styles will change and allow students to learn collaboratively, share knowledge, exchange learning experiences, and work with cooperative activities (Abbas & Seyedeh, 2011). Most learner's preferred interaction allows them to respond to the learning environment and is measured as their learning style. There are indicators of the methods by which learners perceive, interact, and respond to an environment, which can inform us about preferred learning styles such as the distinguished, mental, affective, social, and physiological behaviors (Kim, Vaughn, Wanzek, & Wei, 2004). According to Hove and Corcoran (2008), many students are comfortable with getting information that is provided to them in a visually stimulating style as a result of having grown up with a variety of visual tools such as photos, television, video games, and computers.

Visual Literacy

The growing application of technology in educational and teaching environments leads to a better usage of visual materials. This involves students reaching necessary information through visual materials. The fast increase and variation of the information causes essential and swift changes to take place in the educational process (Arslan & Nalinci, 2014). These changes lead to an improvement in the quality of teaching methods and learning processes by new guidelines in education, including modern methods to the process, which allow the students to be prepared for the modern world. Therefore, these

changes includes the way that information is spread, which is visualized, rather than written or pressed (Arslan & Nalinci, 2014).

In an educational setting, especially at the initial levels, both students and instructors are more likely to share information more efficiently via utilization of digital technologies as a learning method. It is interesting for them because their reading skills are weak. Therefore, analyzing the visuals and pictures they receive and generating new visuals is the most effective way to deliver knowledge to them while providing them with existing visuals through information and communication technologies (Arslan & Nalinci, 2014).

The power that visual literacy has in the world of global consumerism, especially the influence of media advertising, reflects on the educational field, too. Currently, the visual aspects of people's lives, such as the aesthetic lifestyle, are influenced by their watching habits on television, the Internet, commercials, billboards, and newspapers and magazines (Chung, 2005). In addition, a power of visual literacy is the ability to change and manipulate media advertising, not only to influence people to purchase the advertised product, but also to create false or questionable realities, beliefs, and values in relation to that product (Chung, 2005).

It is very important to have correctly identified characteristics of the visual field and to consider the process of developing an assessment instrument (Arslan & Nalinci, 2014). The term *visual literacy* has many definitions, but I focused on the meaning of visual literacy as a teaching strategy. It is a method that includes the capability to read and understand media, to be able to produce data and images through digital manipulation, and to assess and apply new information expanded from digital

environments (Hess, 2011). In other words, it is analyzing, creating, and estimating in a way that leads to an increase in critical thinking (Hess, 2011). Visual literacy is a multi-layered perception. Since it contains many ideas which help express knowledge verbally, it cannot be realized verbally (Arslan & Nalinci, 2014). Visual literacy increases the ability of the learner to give sensory judgments about imagery faced in everyday life (Gangwer, 2009). Visuals in the media occupy a contemporary culture and have become increasingly necessary, especially to instantly connect. They are also used as a universal language (Hess, 2011). Critical thinking and problem solving are essential as a main skill in visual literacy and allow the learner to understand the impact of images in a variety of contexts (Hess, 2011).

Visual literacy, also known as vision competencies, aid the improvement of individual experiences by seeing and, at the same time, having and integrating other sensory experiences. The development of these abilities is central to normal human learning. When developed, they facilitate a visually literate person in categorizing and interpreting visible actions, symbols, and objects that they face in his/her environment. This allows the learner to communicate with others and to comprehend and enjoy the masterworks of visual communication (Arslan & Nalinci, 2014).

Visual literacy is a blend of semantics and syntax. It is semantic because it is concerned with images and how they transmit the world as a whole as well as how elements inside an image gains meaning. Semantics are connected with semiotics, which is the study of signs (Hess, 2011). In reality, visual semantics transfer appropriate images to the process of communication and the relationship between form and meaning. The grammar, or syntax, of an image is the pictorial construction and organization; that is, the

structure which includes a lot of elements such as line, shape, color, contrast, emphasis, perspective, and juxtaposition (Hess, 2011). Accepting the idea of a relationship between visual literacy and verbal literacy leads us to accept two important main beliefs about them; visuals are a language, and visuals have their particular vocabulary, grammar, and syntax. A visually cultured person needs be able to read and write visually. This person is capable of understanding visual messages successfully and translating meaningful visual content by itself (Avgerinou & Ericson, 1997).

According to the International Visual Literacy Association (n.d.), visual literacy is a number of visual competencies with which a human can expand by visual and other sensual experiences. It is a skill that allows learners to make interpretations and communicate through and receive messages by visual symbols (pictures). It is a skill to exchange pictorial to verbal and vice versa and to discover and evaluate visual data in visual environments (as cited in Arslan & Nalinci, 2014).

Visual literacy is a collection of abilities that aids an individual to successfully find, understand, evaluate, practice, and create images and visual media. It is an approach to help users understand and explore the contextual, cultural, aesthetic, ethical, intellectual, and technical components involved in the construction and use of visual materials. A person who is visually literate is considered a serious consumer of visual media and a competent contributor to a body of public knowledge and culture (Association of College and Research Libraries, 2011). Hortin (1983) pointed out that "visual literacy is the ability to understand and use images and to think and learn in terms of images; i.e., to think visually" (p. 99).

According to Debes (1969), visual literacy is a set of vision competencies that a human being can improve by seeing while simultaneously having and adding other sensory experiences. The expansion of these abilities is central to normal human learning. When improved, they permit a visually literate learner to categorize and understand visible actions, objects, and symbols, natural or man-made, that he/she meets in his/her environment. Through the creative use of these capabilities, learners are able to communicate with others. Through the appreciative use of these capabilities, learners are able to comprehend and enjoy the masterworks of visual message (as cited in Hess, 2011).

Semiotics Theory

Semiotics, the knowledge of signs, is a category of scientific investigation that studies practical things that we use to exemplify the world around us in order to design messages about it (Yildiz, 2003). The main purpose of semiotics is to "unravel the meanings that are built into all kinds of human products, from words, symbols, narratives, symphonies, paintings, and comic books to scientific theories and mathematical theorems" (Danesi, 2007, p. 3). In other words, semiotics employs only signs and symbols to represent difficulties in the knowledge of life. Semiotics aim to interpret those difficulties in terms of how, what, and why (Danesi, 2007). Semiotics target the production and clarification of signs. They may appear in different ways such as words, images, sounds, smells, objects, and so on. Before we assign them characteristic meaning, they have no essential sense (Vickers, Faith, & Rossiter, 2013).

In terms of science or philosophy, semiotics does not provide the meaning directly, but efforts on how the meaning appears. Symbols and signs are important

because semiotics is an approach that determines carried meanings, rather than assigned meanings (Hess, 2011). Semiotics is helpful because it is the foundation of different areas of human knowledge; the core idea of it is that signs are not understandable by themselves in the absolute, but are understood in relation to other signs. Therefore, we can identify a meaning for a single sign or symbol because it is dependent on how other signs are presently related to an individual or culture (Danesi, 2007). The semiotic theory delivers a rich understanding of the function of an illustration of an object as well as the object itself by shaping a clear variance among the immediate object and the dynamic object (Friedman & Thellefsen, 2011).

Since all signs are related to their culture of origin, which means each sign has different exchanges, constructs, and interpretations, and since each culture is diverse, it is more likely to have the same sign take on a different meaning, depending on the setting in which it is shown to the public (Danesi, 2007). Semiotic theory is established from a philosophical and/or logical standpoint, which is focusing on how signs can summon meaning in the perceiving mind (Friedman & Thellefsen, 2011). The visual sign has to tie together the concept and the shape to enable the receiver to understand that the non-material form is included, rather than the material element. As such, it is a viewpoint or exemplification of something beyond themselves (Vickers, Faith, & Rossiter, 2013).

In the educational setting, the educator or the instructional designer must understand some of the semiotic principles because the students need to understand how to properly read signs, given the multitude of contexts in which they may reside; therefore, it may negatively affect learner understanding (Danesi, 2007). Those principles are: (a) all signs and symbols should be constructed in the same manner; (b) all

signs and symbols are impacted by culture and history;(c) some specific signs are exclusive for specific cultures;(d) the variability of humans and perspectives leads to differences between signs and symbols;(e) signs are specific cultural viewpoints of the world; and (f) human behavior impacts viewpoints supported by signs (Danesi, 2007).

Semiotics show an elaborate framework where it is important that the proper conditions exist for signs as signs, for signs being perfect illustrations, and for signs being communicative and related to analysis and that they include a mental decision and imply an explanatory activity which is rooted in logic that pictures the reality (Friedman & Thellefsen, 2011). It aims to illustrate the multitude of concepts associated with the exploration of visual texts that support the learner to work on multimodality and materiality of the content and other sign systems in order to progress their visual semiotic skills (Augustyn, 2012). In the educational field, the application of semiotics is used as a method from the theoretical foundation of education to the particular aspects of teaching and learning (Ponzio, 2002). It could transfer the representative semiotic functions to objects, if necessary, as they allow the student to form real and imaginary mental illustrations of objects (Hess, 2011). It is an instructor's task to make sure that students are provided with significant knowledge to make appropriate associations between symbols, words, and images used in representation because younger students are extremely impacted by semiotic functions, particularly in areas of science. In addition, individuals give things specific meanings and give them appropriate signs (Hess, 2011).

Visual Education Approach

In an educational setting with current technology, students are using images and visual materials in every lecture during the educational process. It is not possible to meet

learner needs all the time because students are expected to recognize, use, and generate images as teaching methods in academic studies and predict the image as a helpful tool. So, using visuals in education requires research, clarification, and evaluation of skills particular to the visual materials that are likely to be used (Arslan & Nalinci, 2014). Thus, those skills should be added, and the explanation of visual literacy importance as well as other visual literacy skills in an educational setting is necessary to have successful learning in current education (Arslan & Nalinci, 2014). The influences of transliteracy (the ability to understand and communicate), metaliteracy (making sense of the world of information), and multimodal literacy (reading, viewing, understanding, responding to, and producing interaction within multimedia) highlight that visual literacy is important for the modern-day student (Hattwig, Bussert, Medaille, & Burgess, 2013).

The history of visual literacy is not established these days, and it has a long history. For example, in 1936, it was assumed that over 65% of all information reached us visually (Hudson, 1987). According to Chung (2005), our environment is drenched in imagery. Within our daily routine and all around us, visual elements are present such as in our home, on the road, on our TV screens, and on the electronic web (Harris, 2006). Therefore, most students are interacting with lots of images and visual elements every day, which ensures lifelong continuous learning as well as a concern for the multi-textual and highly visual character of knowledge creation, presentation, and consumption (Harris, 2006).

According to Duncum (1993), it is central to understand the motives that involve children and adults in the making of imagery. In doing so, it will better inform the place and role of visual art in education. Since children use more visual interfaces than in the

past via TV, the educator today is more encouraged to understand these motives because of the easy student access to these narratives on the Internet. The educator should focus more on giving visual narratives in schools, instead of using only words or traditional teaching methods.

The instructors should focus on and improve the visual sense of teaching through increasing visual literacy because the visual sense is the most honorable when building experiences and most central to brain operation. At the same time, applying this approach leads to a significant generation, one which is growing up with an increased visual knowledge and is not one of just passive consumers, but who are aware of the importance of this knowledge bowl (Avgerinou & Ericson, 1997). Instructors need to expand the use of the visual approach, which would make people intelligent enough to recognize and link the context of their lives and their visual culture. Therefore, the users of this approach will have a better understanding of multimedia technologies that they are using and by which they are surrounded on a daily basis. Thus, the current task for educators is to educate learners on how they can understand visually and to construct experiences accordingly. The educational approach needs to focus more on art as a cultural system, emphasizing links between art and the knowledge around us (Aguirre, 2004).

Since the current group of children are familiar with the expressions of our visual culture, they spend more time watching TV or playing with their devices. They become able to make the critical choice between essential and pointless knowledge. Since we are learning and influenced by what we watch on television or by the pictures around us in visual methods, the impact of visual media in life will be extremely more dominant than

print. It doesn't make sense and it is hard to accept that some educators give so little encouragement to educating young learners to "read" content and "understand" visual material when so much of what they are required to study is most easily learned from visual sources (Avgerinou & Ericson, 1997).

People, particularly children, are most influenced by the many types of current media and, in turn, the things people care about, lifestyles they live, and goods they consume are directly connected to what they watch or are shown in the media (Chung, 2005). The techniques of how we learn and remember builds a solid relationship with the way our senses function. That needs to draw our attention, as educators, to prevent ignoring the visual element of learning that is a very high proportion of all sensory learning. The visual sense forces itself on us as the most dominant and, consequently, the most important communication tool; therefore, there is no reason to not believe this to be so. It highly recommends that teachers concentrate on and utilize the visual sense through the cultivation and development of visual literacy (Avgerinou & Ericson, 1997).

The visual arts are deeply a part of the human nature of cognition and societies. This idea is not an absolute connection, but it is the faith that our children's society is instinctively interested in constructing images as motives that closely correlate the roles of visual literacy and art education images in the educational field. This thought is a close idea to the links that exist between images and literacy in addition to the impact that images have on human cognition, expansion, and awareness (Duncum, 1993). In fact, the educator should care about visual perception and reflect that in the teaching method used and understand that the way students perceive content influences his/her learning, problem-solving skills, and the growth of critical thinking. Thus, visual image designers

must work with the perceptual ability of his/her students in mind to allow the creation of media that transfer messages in a more efficient and effective way (Avgerinou & Ericson, 1997). The worthy education process that is applied to visual design and structure principles affects students' responses to and understanding, clarification, and analysis of images in addition to the construction of their own visual representations (Pantaleo, 2015).

Pettersson's (1993) research has shown that learners usually progress and rely heavily on the left hemisphere of their brain, which deals with verbal processes and is analytic, symbolic, successive, and logical. The right hemisphere deals with spatial and configuration processes and looks to be immediate, holistic, natural, and artificial. The right hemisphere is generally left under-developed due to our educational system (as cited in Avgerinou & Ericson, 1997) Therefore, educators need to recognize the importance of right-brain practice in learning development if they want to activate their students' full capabilities and if they trust that the results of their teaching are going to become daily life-skills (Avgerinou & Ericson, 1997). Visual literacy is an essential skill, developed from important language skills. It is used almost everywhere such as in our jobs, in our personal development, and in our creative lives. These days, it has become a necessary skill, and it is critical for everyone in the community to allow the individual to read and interpret information shown through modern visual methods, including computer systems, television, videophones, advertising, and movies (Davis, 2008).

Consequently, visual literacy is the use of visuals for the purposes of communication: thinking, education, building meaning, creative expression, and artistic

enjoyment. Visual literacy includes both the cognitive and emotional scopes with respect to the reception and the mien of visual communications (Pantaleo, 2015).

Taking into account that visual mental imagery is imperative to the cognitive process, it appears to be an amazing tool for use in learning purposes. However, several researchers show that gaining better vision of the ways in which photos are perceived, stored, and recovered will ultimately lead to more active designs for visual instructional materials. Additionally, as visual imagery is associated with visual and verbal learning as well as understanding and perception formation, it can be presumed that students would greatly benefit from using imagery (Avgerinou & Ericson, 1997). The capability to understand and realize visual symbols is a simplistic mission of visual literacy. Visual literacy also supports the receivers' involvement with visual resources, to interact with them, and to integrate ideas into new visual creations. Thus, the control to operate images, generate understated effects, and combine them with text is immeasurable (Hess, 2011).

Visual language is the purposeful use of culturally acquired symbols in culturally established designs for the purpose of interaction. The methods of visual language vary. An example is body language, which is the use of signs and bodily actions for non-verbal communication. Another is object language, which is the use of objects for non-verbal communication. Sign and symbol language is the use of sign and symbol structures (for example, Blissymbolics and Iso types) to deliver the message for non-verbal communication (Avgerinou & Ericson, 1997).

Since visual literacy intersects with digital technology and digital literacy, digital media has become more broadly used in recent years, which has further developed the

definition of visual literacy. It is known as a method to regulate the meanings of images and to show a set of skills in the process of making contextual, metaphoric, and philosophic interpretations that are more complex than identifying an image (Arslan & Nalinci, 2014). In terms of conveying data, pictures and visual media are the best tools to represent information and emotions. Photos and visuals in the educational field have become a medium of self-reflection and analysis (Arslan & Nalinci, 2014). Thus, it is important to focus more on both the visual arts and the language arts curricula, which include set learning outcomes that target the improvement of visual literacy (Pantaleo, 2015). For instance, elementary students are interested in image development and design processes in the visual arts, and they are able to view, realize, and read visual texts in language arts (Pantaleo, 2015).

The teacher needs to know how to apply the elements of visual needs and the instructional time it takes to do so. Some experts may need to involve professional change in order to increase their understanding of the multimodal design and have instruction for students to plan features, organize formats, and convert texts (Pantaleo, 2015). Most students, especially younger ones, are interested in learning with the elements of visual art and design. The teacher's tasks needs to focus more on pedagogy as well as other elements. In addition, it is significant to show students how visual elements are evident in texts across various subject areas (Pantaleo, 2015). Further, using both print and digital visual media includes texts in curriculum documents that could increase teacher interest in and enthusiasm for learning about and including these texts in their lessons (Pantaleo, 2015).

The Need for Instructional Photo

Since instructional technology has been an important component in education since the 1890s, the significance of the use of images is clear; educators encourage the use of visuals, including large-scale maps, pictures, and models (Park, 2004). Old research illustrated that using visual elements and drawings made by the learners led them to grow and understand the correct technique for building valuable descriptions, regarding and recording the essential knowledge for the student needs and disregarding non-essentials (Park, 2004). Since the visual tool has a strong impact on our mental activity, memory, and feeling, our emotional reactions to the photographs that we view are a direct effect of an unquestioning belief in their truth (Manzella, 1957).

The art and science of photography was strongly highlighted as a method that showcased close observation and clarification of the serious features of an object as well as its details. In term of books that carry knowledge, it is appropriate for individual learning, but image projection strategies were used for all classroom teaching (Park, 2004). During the first 20 years of the 20th century, teachers developed other necessary skills in addition to teaching skills. The appendix in the report of the *Reorganization of Science in Secondary Schools* shows the major qualities that make for success in the way of teaching. Those skills focus on visual education such as appropriate drawings, sketches, and charts as well as the use of bench and machine tools "computers." The production of photographs and light slides is another qualification of great value for all teachers (National Education Association, 1920).

Photography

Photography is a medium that crosses any language barrier and facilitates understanding between people from different cultures and locations (McKenzie & Ozkan, 2009). Photos are diverse in nature–they can be moving, static, print, or digital. Also, photos are different in medium, style, and way and purpose of structure/composition in addition to their uses, sites of display, and how and to what level they are linked with other modes (Pantaleo, 2015). Individuals take photos to document their lives, then print or store them in order to recall those memories. Currently, people use photos to tell stories because they have the advantage of digital photography and access to websites and special software that allows them to express themselves and represent something special to them or something difficult to recreate (McKenzie, Mims, & Ozkan, 2010). Photography offers the inherently artistic as a part of knowledge and nature to the viewers (Mullin, 1998).

The use of photos in education is now a way for students to exemplify and clarify difficult procedures and study field data in detail that includes unlimited text that helps describe the subject (McKenzie et al., 2010). Photos can clarify the variety between the reality and the imagination. It is a part of the visual literacy field that has the knowledge of and presents the events from the previous days throughout history. Photography is a mode to carry a message as a wealthy visual statement (Manzella, 1957). The photo makes the receiver or learner closer to the event that he/she discovers. It can give the receiver the idea of that event as if the reader was a participant or a visitor. So, the photograph is more than just a part of an old event; it is a historian's materials that lets

the viewers explore and link to the knowledge, and it is considered a witness to the event

that makes connections among the subject and visual elements (Vanhaesebrouck, 2009).

In the present day, photos play a major part in journalism. Starting in the late

19th century, newspaper and magazine stories depended on photographs as a fast way to

transport information. So, those organizations worked with sense of sight to meet their

needs and grab the audiences' attention. The use of photos expanded in the mid-20th

century, especially in television, in online journalism, and in the news (Sterling, 2009).

A verification of this is that the photo used as way to communicate by rudimentary

humans to express his/herself and his/her thoughts and beliefs. In addition, the first

letters in the early human language took the form of images of objects and creatures that

surrounded humans. According to Baker (2013), the Pew survey showed that the number

of individuals who snap photos on their cell phone because they believe it easy to use and

they can upload huge numbers of photos onto their several websites is about 83%.

Therefore, the educational field can use the benefits of this medium as pleasing to the

eye, visually balanced, and descriptive because "Photographs can be helpful in bringing

words and concepts to the classroom" (Byrnes & Wasik, 2009, p. 245). The photograph

can say a thousand words, and that also means that it can teach a thousand words, skills,

and experiences, and it lets the readers see new things and new experiences that they had

never seen before (Byrnes & Wasik, 2009).

Instructional Photos

Instruction by itself is known as an organized way to do something provided by

paper or media (Cambridge Dictionary Online, n.d.). *Instructional* means an approach to

deliver and teach a person who needs to achieve something by giving information that

helps the person do or use something. For example, the student teaches himself with instructional media or materials (Cambridge Dictionary Online, n.d.). *Instructional* is an adjective that is used to describe detailed knowledge or an experience that explains how something should be done (Oxford Dictionary, n.d.).

The Instructional Photo (IP) is one of the educational visual tools that would explain some unclear ideas. Also, it could facilitate a content for learners who have special needs or who have a lower understanding by visualizing the content in order to allow them to memorize it (Techarueangrong, Kaewprapan, & Suksakulchai, 2013). Instructional Photo is known as an educational technology tool that serves as a link between content and the learner in a visual way. Therefore, we should improve our educational philosophy to focus more on visual aspects and develop learner communication with visual elements than on plain text (Sadik, 2011). In the past, instructors defined visual tools as the ability of getting knowledge from pictures. Moreover, they titled it visual thinking (Sadik, 2011).

Instructional Photo is a medium that works as a strategy for students when they are not interested in the content of knowledge using traditional methods of teaching, and the students are not able to imagine the details about something that is no longer available. By using Instructional Photo, students with special needs could increase their ability of understanding by using a memorization approach (Techarueangrong et al., 2013). In addition, some teachers believe that applying visual methods allows students to understand the meaning of the lesson obviously, flexibly, and simply; therefore, that will reflect positively on the education outcomes (Sadik, 2011). Photos should carry a particular purpose, and they need to address a viewer's background and their own

previous experience in order to offer the needed knowledge (Holm, 2008). Applying and using photography for educational purposes inspires students' critical and logical thinking abilities. Educational photos support and facilitate students' creative thinking, and it could raise learners` ability to think analogically.

According to my pilot study conducted in the fall of 2014 (Buhamad, 2014), photographs can be a tool to explain difficult content to first-grade students. After interviewing several elementary teachers, I found the problem was that some students were not interested in traditional methods because they seemed to simply repeat the knowledge; therefore, they could not interact with the content. Also, sometimes the teacher tried to explain something that was not available in their environment, although she asked them to imagine it in their mind. For example, in Colorado there are no beaches or seas, but the teacher wanted to explain what a bay looked like. The teacher believed the content that she was teaching was needed for upcoming classes and grades, but at the same time, her class's "history" content was very dry and seemed theoretical. Her way of teaching that class was to tell stories to try to get the students' attention and link those stories with some movies they may have seen.

Instructional Photo was used as a tool that could help students understand details of something that was no longer offered or may be hard to get or even to visualize. Also, this tool was used in order to increase memorization, which is the most important skill that is needed by first graders in order to support their knowledge and give them chances to explain the content from their perspective. After showing them some pictures of a bay, the students in the history class started a discussion about the details in the photograph because, for some of them, this was their first time seeing a bay. Students who had seen

one and visited it started sharing their experiences with other students. Hence, the

application of photography for learning purposes allows the learners to link between

areas of experience that are hard to imagine, such as in science and language arts (Cope,

1981).

The instructors in that pilot study found IP to be a powerful tool because learners

could visualize the dry content, and it supported them in describing a situation in an

interesting way for all students. This teaching technique was transferred to learners'

minds directly and sent the knowledge into their long-term memories. Photography made

the students link the content in order to recall it better than by just memorizing the text.

By working with vision, the learners were able to increase their attention and were more

willing to cooperate with the instructor. Hence, the photograph was understood and

showed an impression unto itself, and it presented a descriptive knowledge that was

actuality and truth for those who did not have such knowledge. According to Cope

(1981), photography is a way that lets the individual show expressions and is a persuasive

way for learners to show others their evolving skills.

Instructional Photo can provide, offer, and obtain quality information. At the

same time, it leads to social interaction and discussion among the students about the

photo content (McKenzie & Ozkan, 2009). Thus, students choose from and expand the

knowledge included in their own visions, depending on the cognitive data that are inside

the instructional materials that were provided (Bruner, n.d).

Using Instructional Photo as a teaching tool offers creative opportunities for

students, whether it is with teachers or peers, which allows learners to express themselves

and understand their world. By using this educational technology as a teaching tool, the

instructor can display case student work, promote school events, and deliver meaningful

hands-on learning experiences for students. Students can use photos to assist them in

viewing examples of work created by other people and expand their aspect about the

subject (McKenzie & Ozkan, 2009). The teacher who uses Instructional Photo should

have skills that help her/him to determine the appropriate content for targeted ages and

cultures. This skill can be enhanced for teachers to expand their teaching practices and to

post appropriately designed, chronological photos that develop learning potential

(McKenzie et al., 2010). The successful Instructional Photo should explain itself and

should have meaning, rather than helping a person to find meaning, especially if it is used

in an educational setting. Educating learners with Instructional Photo has proven that

even very young learners were able to successfully use it and that it had a strong impact,

in both school community (Cope, 1981). The intention of Instructional Photo as a tool in

educational technology is to simplify knowledge, but if the curriculum designer used this

tool to attach content, then it would help the students get more descriptions about what

was written because the target of photography is to give the reader rich information in

visual way in order to simplify the text (Mullin, 1998). One function of the camera is to

create innumerable chances for learning, show unexpected value, and make the instructor

provide a unique insight to learner problems (Cope, 1981).

The image used for educational or explanation purposes should have verbal and

nonverbal illustrations of knowledge. The verbal part of imagery entails factors like

words and ideas. The nonverbal part looks like the objects of the ideas they enhance.

These two methods are not separate, but dependent on each other. This association

between verbal and nonverbal systems permits us to produce images when learners hear

words and to generate descriptions of pictures (Hess, 2011). Hibbing and Rankin-Erickson (2003) provided a helpful plan to instructors who met with younger learners who were not able to combine their verbal and nonverbal coding systems (as cited in Hess, 2011). This plan works on the analogy of a television in learners' minds and stimulated learners to visualize text in terms of images on a television screen. The practice increased better understanding of what was being read by illustrating the text piece-by-piece, instead of reading speedily in order to emphasize the connection between words and images (Hess, 2011).

According to Eisner (2004), this teaching tool should not only encourage the learner to inquire how someone has made a text, including a visual image, but slow down perception as a result of engaging students in such activities (as cited in Pantaleo, 2015). Things such as art objects and image books are texts to savor--to discover the visual elements and qualities that establish the qualitative wholeness (Pantaleo, 2015). This aspect aims to update instructional designers' awareness that not all learners are able to practice verbal and nonverbal knowledge in the same way. As such, they should apply plans that target the use of imagination skills to visualize images that can be assimilated into the design of instruction to aid better understanding (Hess, 2011).

Research shows that above 95% of instructors in 52 Malaysian schools designed their lessons by using some visual teaching tools, such as photos and graphics, in order to make their lesson more gratifying for both teacher and learner and make the lesson content more understandable and clear (Yunus, Salehi, & John, 2013). More than 90% of teachers in those Malaysian schools thought that they knew about their students' attention to their lessons by using Instructional Photo. About 92% of teachers recommended

teaching through the visual approach, particularly Instructional Photo, because it makes

the teaching style easier and it can transfer difficult concepts to plain concepts by

clarifying the knowledge through images and photographs. More than 80% of instructors

trust using Instructional Photo assistance in order to abet students in visualizing texts

clearly and encourage learners to participate within cultural elements. Therefore, when

educators recognize how to grab students' attention, teachers can deliver a friendly and

exciting atmosphere in which the learners can learn. The students will be encouraged to

learn by listening and writing what the instructors expressed in the classroom. Thus, the

implementation of Instructional Photo in teaching literature saves time and effort and

promotes the learner to find their own creativity, to expand their own understanding

towards the lesson (Yunus, Salehi, & John, 2013). Depictive pictures used for teaching

purposes are active learning tools. They can represent information, either directly or

indirectly, depending on the lesson or the teacher perspective (Hess, 2011).

Some teachers found that using Instructional Photo as a teaching technique was

valuable for whole science classroom instruction. The teachers found it was an

appropriate method that allowed the illustration of the natural sciences such as

microscopic slides to large classroom screens (Park, 2004). The ability standards have

been established with an interdisciplinary approach, filling in the gap of visual literacy in

education. Presently, even students can utilize visuals for classes, tasks, and academic

studies; yet, there is no standard that can be taken as a reference (Arslan & Nalinci,

2014). There is a lot of literature on visual literacy and visual research. The visual

literacy conception has been approached from an interdisciplinary perspective. Know-

hows and student learning outcomes relating to it have not been identified (Arslan & Nalinci, 2014).

According to Holtz (1906, as cited in Park, 2004) and Rendtorff (1909, as cited in Park, 2004), in early articles in the journal, *School Science and Mathematics,* science teachers were encouraged to create their own images on glass plates for projection and to create their own projection device. That required some experience, ability, and time. Also, those teachers needed to figure out which photo to use in order to meet their target.

More research is warranted to identify the appropriate characteristics of instructional photos that are used in the educational setting and to show the standard of these visual tools. Also, more research is needed to confirm how the visual approach, as a tool, can solve educational problems under the educational technology umbrella. My pilot study (Buhamad, 2014) confirmed the visual approach as a solving tool in elementary schools because it addressed how teachers perceived the use of instructional photo methods for complex content with first-grade students. I came up with using the photo strategy as a teaching method for history classes (theoretical), and it worked great as a bridge to deliver the hard content that was no longer available. It also proved helpful in science classes because some of the content was hard to imagine. Teaching by visual methods showed the capability of the photo to solve the individual differences among the learners. It allowed the students to use it as a gate for increasing their knowledge on their own. In addition, the teacher found that it could visualize content and made it easier to meet the students' interests. This study also showed the importance of photos in media literacy and the effectiveness of the photo as an educational tool that could solve an educational issue.

The Justification of the Study

The justification of the importance of this problem originated from my personal experience. As a previous student in Kuwaiti schools, I discovered they needed to apply the visual approach more as a teaching method. The practical research problem that I noted during my study in those schools was that they used some curricula that forced teachers to explain them without enough teaching tools in elementary education, especially because some classes had students who did not read or write well. They may have felt bored or lost using the traditional teaching methods, which are simply transferring the content orally or by a whiteboard, with content that did not relate to their reality. The students were not able to follow the instructor or even imagine the details of current or previous content knowledge. The visual teaching method supports student understanding of the obvious and hidden meaning of the content, which leads to an increase in the impact of the learning outcome (Sadik, 2011). Learning by photography allows the learners to link their several experiences to the difficult content that they are learning (Cope, 1981).

Another justification of the importance of the problem comes from other research and expertise as reported in the literature. Hess (2011) mentioned in her study that a common issue with visual educational tools made from the incompetence of those given responsibility to pick appropriate imagery for content being presented.

> Analogical images convey a concept or topic by showing a related image that implies a similarity between two topics. In order for this type of image to work, the learner must be familiar with the entire context in which it is being presented. Arbitrary images do not resemble what is represented, but are still related by logic or concept. For example, graphics may be used to represent a certain concept that does not look like a graph. Not every type of image is effective in every situation; it is important to choose the most effective type of image for specific learning situations. (Hess, 2011, p. 51)

This study recommended further research to understand how instructors should choose from among varieties of IP that could aid them in making instructional designers more effective. In addition, the doctoral thesis of James Mangan (1981) stated, "Learning through pictures provides interesting examples to illustrate both cultural and cognitive limitations to the ability to understand pictures" (as cited in Yildiz, 2003, p. 1). The limitation that he delineated leads us to care more about the chosen IP and the learning purpose. Since learners have a variety of backgrounds and have different explanations beyond that of their culture, learner designer materials should work from more than one perspective as often as possible (Yildiz, 2003). For example, the Yogi Bear picture from western America may seem like a dog to a person who has never seen a bear. Another example is a picture of the Tsimshian bear from North America that does not look like a typical bear. Another example is when the educator uses a hand-drawn picture of a bear with low-quality details; it may become more difficult for the learner who has never heard of a bear. They may poorly perceive the content of the sketch; therefore, it is important to take different cultures and student backgrounds into account (Yildiz, 2003). Visual tools accompany instructional text in books and web pages. So, there is a need to guide teachers through the selection and use of IP by identifying the characteristics of IP.

The *intent* of this study was to set up the use of photos as a teaching method in an elementary setting, clarify the standard characteristics of these instructional photos, and to show the power of these visual tools as a teaching method by answering the research question which are:

Q1   How do instructors select instructional photos?

Q2   How do instructors teach students to critique visuals for meaning?

Q3   What characteristics make a photograph instructional?

Q4   How does a background in photography influence pedagogical decisions?

By providing and recommending the most appropriate characteristics of instructional photos, instructors, school administrators, and curriculum designers can clarify the power of this tool. They should also encourage its application as a way of teaching in order to have more student interest in elementary classrooms, stimulate lesson content, and make it meaningful to the students' culture and environment, which will lead to a better understanding of the curriculum.

Summary

This chapter explains the Instructional Photo and its origin. The Instructional Photo is an educational technology tool that enables teachers to work through their students' thoughts in order to increase student understanding. This is necessary to change the student's actions that appear, while neglecting those actions that do not, such as emotions. This tool aims to improve the learners' experience as a result of the educator understanding the best learning style for her/his students. Eventually, the learning operation will become more dynamic. Therefore, one of the teacher`s tasks is to realize the appropriate educational styles of the learner to allow him/her to apply appropriate teaching techniques (Hwang & Embi, 2007).

Using technology as a teaching style supports and helps engage students by motivating and challenging them. It can develop more positive attitudes towards their learning and themselves when the learner interacts with technology and increases his/her interest in the learning experiences (Abbas & Seyedeh, 2011).

Instructional Photo is a type of media that most learner's preferred, the interaction allowing them to respond to the learning environment, and is measured as their learning style. There are indicators of the methods in which learners perceive, interact, and respond to an environment, which can inform us about preferred learning styles such as the distinguished, mental, affective, social, and physiological behaviors (Kim, Vaughn, Wanzek, & Wei, 2004).

Instructional Photo is a visual teaching tool because it is a method that includes the capability to read and understand media, to be able to produce data and images through digital manipulation, and to assess and apply new information expanded from digital environments (Hess, 2011). In other words, it is the analyzing, creating, and estimating that lead to an increase in critical thinking (Hess, 2011).

This teaching method came from the semiotics theory, which means the knowledge of signs, a category of scientific investigation that studies practical things that we use to exemplify the world around us in order to design messages about it (Yildiz, 2003). Since all signs are related to their culture of origin, this means that each sign has different exchanges, constructs, and interpretations, and since each culture is diverse, it is more likely to have the same sign take on a different meaning, depending on the setting in which it is shown to the public (Danesi, 2007).

The Instructional Photo (IP) is one of the educational visual tools that would explain some unclear ideas. Also, it could facilitate a content for learners who have special needs or who have a lower understanding by visualizing the content in order to allow them to memorize it (Techarueangrong et al., 2013). Instructional Photo is known as an educational technology tool that aims to develop a link between content and the

learner in visual ways. Therefore, we should improve our educational philosophy to

focus more on visual aspects and develop learner communication with visual elements

than on plain text (Sadik, 2011). In the past, visuals tool were defined by instructors as

the ability of getting knowledge from pictures. Moreover, they titled it visual thinking

(Sadik, 2011).

CHAPTER III

METHODOLOGY

Qualitative Tradition

This study applied the basic qualitative approach because it tied in with the characteristics that were recommended by Merriam (2009). The basic qualitative method allows the researcher to inspect an educational issue as well as the fields of management, health, counseling business, and social work and understands and explains the field of practice (Merriam 2009). By using this method of the qualitative inquiry, it will help the researcher to know the description, clarification, and understanding of the situation that he investigates and plan the occurring process in the chosen phenomenon (Merriam, 2009). As such, it allowed me to describe and understand the appropriate characteristics of Instructional Photo that led to a better understanding. The basic qualitative inquiry aided the researcher in illustrating how the participants deal with and use their experience in order to create their own world and how they classify it in their knowledge base.

Qualitative investigation works in the same place where people live, work, and attend school; in other words, it focuses on experiences of daily life (Jennifer, 2013). The central purpose for applying a qualitative approach is that it gives a description of how people make sense of an experience that they gained from their lives (Merriam, 2009). Qualitative research begins from a human science viewpoint because it centers on individual experience, insights, and contextual-historical-cultural-embodied explanations

of human life. Qualitative work visualizes truth as not only methodically verifiable information, but also information and principles as practiced by people (Jennifer, 2013). This research process helps the researcher to recognize how the participants give to and explain a meaning from the teaching tool that is used in their field and how it addresses their lives and connects it with their prior experiences (Merriam, 2009). The basic qualitative method can lead the researcher to the participant's perspective with regard to the appropriate characteristic of Instructional Photo as a teaching method that aims to facilitate teacher tasks and provide a better understanding for learners (Creswell, 2013). At the same time, the aim of qualitative inquiry is not general or proof of evidence, but provides and shows meaning, perception, and clarification about something in people's lived experience or an issue they may face on a daily basis. It focuses on the quality of things, as opposed to the measurement of things (Jennifer, 2013). The qualitative inquiry aims to improve in-depth investigation of a central phenomenon (Creswell, 2012). The main idea of applying the basic qualitative approach in this study was to increase the understanding of Instructional Photo as a teaching method and as an experience for both instructors and elementary school students and to have a wealthy description of this teaching method in order to meet the researcher's purpose (Ary, Jacobs, Sorensen, & Walker, 2013).

Theoretical Framework

In this study, the researcher aimed to find out the best Instructional Photo model in order to encourage elementary education instructors to use more visual tools in their classes and use photos, specifically, in order to make the learning process more motivating for both instructors and learners. The researcher used preliminary evidence

provided to generate the properties of the Instructional Photo strategy as a teaching

method in the academic achievement of elementary education students. It is the

integration of that individual's understanding according to their perspective of their

reality. Since visuals in the media occupy contemporary culture and have become

increasingly necessary, especially to connect instantly, they are also used as a universal

language (Hess, 2011). Critical thinking and problem solving are essential as primary

skills of visual literacy and allow the learner to understand the impact of images in a

variety of contexts (Hess, 2011).

Knowing the symbols and signs that are included in photos that are used for

educational purposes is important because semiotics is an approach to know carried

meanings, rather than assigned meanings (Hess, 2011). Semiotics is helpful because it is

the foundation of different areas of human knowledge, the core idea of which is that signs

are not understandable by themselves in the absolute, but are understood in relation to

other signs. Therefore, we can identify a meaning for a single sign or symbol because it

is dependent on how other signs are presently related to an individual or culture (Danesi,

2007).

By using the visual literacy and semiotic theory to analyze the data that came

from the interview, the researcher is able to better understand how participants describe

the Instructional Photo from their perspective because the semiotic theory delivers a rich

understanding of the function of an illustration of an object as well as the object itself by

shaping a clear variance among the immediate object and the dynamic object (Friedman

& Thellefsen, 2011). Therefore, the researcher can determine the significant data

according to semiotics' principles which are: (a) all signs and symbols should be

constructed in the same manner; (b) all signs and symbols are impacted by culture and history; (c) some specific signs are exclusive for specific cultures; (d) the variability of humans and perspectives leads to differences between signs and symbols; and (e) signs are specific cultural viewpoints of the world. Human behavior impacts viewpoints supported by signs (Danesi, 2007).

The data collected for this study and applied to this research was obtained from elementary instructors and photography artists. The data collection method offered deep descriptive data from the participants of the study that informed their experience with the use of photos for the education purpose, how it should look, what it should include, and what to avoid in terms of a teaching method as an educational technology tool. In order to make the learning operation more powerful and attractive, I needed to care about the description of instructional photos. The photos known as valuation tools can help with teaching and substitute some of those of the traditional teaching styles (Horejsi, 2007).

The study planned to grow the elementary education instructors' awareness with respect to choosing the most appropriate photo that met their needs as a teaching tool by clarifying the power of photos and explaining the importance of changing teaching styles, relevant to their content. In addition, this study helped the teachers understand Instructional Photos as an approach of media that works with the visual sense in order to allow them to explain the details to students, open their eyes to how they should apply this teaching tool, and how they can determine the photo content that is most helpful and powerful in order to increase the students` interest and knowledge. Also, this study allowed instructional designers to transfer the content to visual thoughts and provide evidence of the advantages of this teaching strategy in terms of saving the instructor's

time and effort and improving the overall teaching style. The data in this study were collected from the experiences of participants in their work place environments, which were the classrooms in which the photo strategy was applied and photography was practiced.

Personal Stance/Epistemological

The experience that I have from my previous job as photojournalist and instructional designer clues me to trust in the photo as a visual tool that can play an important role in terms of delivering knowledge. It can get close to the reality of the student in order to simulate him/her. It has been considered an educational tool throughout history because the first tool that humans generated to communicate and document events was drawing on walls. So, individuals instinctively intended to practice visual language to send a message or to communicate with others. Applying a visual approach allows human brains to get the content quickly. For example, visual elements can clarify highway instructions through traffic signs, which means providing fewer details in order to rapidly inform the driver about the rules of the street.

As a researcher, I was excited to identify the appropriate characteristics that made a photograph instructional and made it a teaching strategy that better fit elementary school learners after it showed great results in terms of student engagement when I applied it in several elementary classes. This will lead me to set up standard characteristics of photos that will be used for educational purposes as a solution to boredom prevention and lack of understanding as well as to change the ways of teaching at this educational level. If we, as instructors, want learners to be able to give meaning to

the content that they are learning, we need to believe in applying visual tools to positively reflect on the educational outcomes (Sadik, 2011).

Using the qualitative approach facilitated me as a researcher to describe, in detail, and thoroughly know the elements of and the look of Instructional Photo that was used, to help instructors maintain learners' responsiveness inside the classroom, especially with younger students. This will then lead to an active method to deliver and send information to the learners' mind and work with their visual sense.

The constructionist theoretical approach was applied to clarify the research questions because this method aims to focus on participants' experiences in the real world and, thus, provide answers with meaning and clarification (Grotty, 1998). It is a technique that allows participants to construct meaning by providing them tools with which to work in order to expand experience. Constructionism targets linking objectivity and subjectivity together in order to connect the thought with real experiences (Grotty, 1998).

Participants and Setting

With a qualitative approach, I needed to have a greater level of permission from my participants and access to interview them (Creswell, 2012). I selected elementary instructors and photography artists who had at least 10 years of experience in both of those fields in the state of Kuwait to implement my study in the educational environment and art field. During the last 10 years, a lot of visual media have been invented and become used most everywhere. Therefore, the participants were able to compare the differences. This allowed the researcher to mix both views and opinions about the research and visual concept because the participants were experts in this case. The

participants in this study were two instructors from different schools and two artists and included males and females. Conducting research using the qualitative method focuses on a few individuals to allow the researcher the overall ability to provide in-depth details, as using a large number of participants becomes unwieldy and results in superficial viewpoints (Creswell, 2012). Participants were asked to voluntarily participate in this study. They joined this study from their own environment via email interview (a valuable way to collect geographically spread quantitative data in addition) and video calls to discuss the responses and to ask semi-structured questions. Email interviews consisted of gathering open-ended data through interviews with participants by computer and Internet to allow research to have a detailed, rich-text database for qualitative analysis (Creswell, 2012). The participants were selected from researcher relationships, which means homogeneous sampling, because they possessed similar traits and belonged to the same environment (Creswell, 2012).

Therefore, purposeful sampling was used as the method of sampling to help the researcher obtain the best understanding of the central phenomenon through a detailed understanding of the participants (Creswell, 2012). All participants helped me clarify Instructional Photo as a teaching method in elementary education. Also, all of the participants worked or studied in the same country (Creswell, 2012).

Data Collection and Analysis

I had to go through the Institutional Review Board of the University of Northern Colorado to get the approval to start collecting my data. After consulting Meriam (2009), I decided that interviews would be used in this study as a way of collecting data in qualitative research in a field of practice. The electronic interviews were conducted

personally with each participant by emails as the instrument which collected open–ended

responses, then video calls to discuss the responses and ask semi-structured questions

(Creswell, 2012). The interviews included questions about Instructional Photo, written

on paper for the instructors. The photography artist interviews included written questions

that describe Instructional Photo from an art perspective. The interviews included open-

ended and semi-structured questions and took about 60 minutes. The participants freely

completed the interview after the researcher explained to them the importance of the

study in terms of media and visual literacy. There was significant proof to identify the

appropriate Instructional Photo that is used in education in order to get the best

explanation. In order to enable the instructors to compare their ways of teaching and to

answer the interview questions, I needed to ask them about their opinion with respect to

applying teaching visual tools as a way to facilitate their classroom tasks and then address

their experiences with this application.

　　　Those collected data were translated from the Arabic language to English by me,

and then I transcribed them. The data were organized in groups, and each group was

given a meaningful code (Creswell, 2013). In addition, the analytic strategy was used to

allow me to draw ideas, take my notes, brief the notes, identify codes, divide the codes

for the groups, and order the groups' analytic framework in literature. Then, I wrote a

judgment to explain the data (Creswell, 2013). I stored the data on my hard drive;

therefore, I was the only person who had access to it. The identity of the participants was

hidden during the analysis process, and each participant was recognized by numbers. In

the findings and discussion of this study, the pseudonyms are used as the participants

participated respectively.

Study Rigor

This study applied triangulation to rigor the trustworthiness. The researcher collected experiential data from different participants via interviews in order to theme the data and to support that theme. This enabled the researcher to group and report the results based on exactness and trustworthiness (Creswell, 2012). The member checks were used in order to ensure the findings. In order to allow the researcher to achieve the participants` point of view and check the truth of the data, this study will had more than one participant to interview, asking the participants about different aspects of the study, repeating their answers to them to make sure the researcher understood the answer and that it accurately represented their opinions (Creswell, 2012).

Limitations

This study includes a small sample size and investigates a specific topic in a situated learning context with many parameters, therefore, the findings are specialized to this or similar situations only.

Summary

This chapter describes the research approach that was used in this study. This study applied the basic qualitative approach because it tied in with the characteristics that were recommended by Merriam (2009). The basic qualitative method allows the researcher to inspect an educational issue as well as the fields of management, health, counseling business, and social work and understands and explains the field of practice (Merriam 2009). The theoretical framework of this study was to use the visual literacy and semiotic theories to analyze the data that came from the interviews, which helped the researcher better understand how participants describe Instructional Photo from their

perspective because the semiotic theory delivers a rich understanding of the function of an illustration of an object as well as the object itself by shaping a clear variance among the immediate object and the dynamic object (Friedman & Thellefsen, 2011). Therefore, the researcher determined the significant data according to semiotics principles, which are: (a) all signs and symbols should be constructed in the same manner; (b) all signs and symbols are impacted by culture and history; (c) some specific signs are exclusive for specific cultures; (d) the variability of humans and perspectives leads to differences between signs and symbols; and (e) signs are specific cultural viewpoints of the world. Human behavior impacts viewpoints supported by signs (Danesi, 2007).

The epistemology of this study came from researcher experience as a photojournalist and instructional designer that clued me to trust in the photo as a visual tool that can play an important role in terms of delivering knowledge. It can get close to the reality of the student in order to stimulate him/her. It has been considered an educational tool throughout history because the first tool that humans generated to communicate and document events was drawing on walls.

The researcher's purpose of this study was to identify the appropriate characteristics that make a photograph instructional and a teaching strategy that better fits elementary school education after it showed great results in terms of student engagement when applied in several elementary classes. This will lead me to set up standard characteristics of photos that will be used for educational purposes as a solution to boredom prevention and lack of understanding as well as changing the ways of teaching at this educational level.

The participants of this study were elementary instructors and photography artists from the state of Kuwait who had at least 10 years of experience in both fields to implement this study in the educational environment and art field. During the last 10 years, a lot of visual media have been invented and become widely used everywhere. Therefore the participants were able to compare the differences. This allowed the researcher to mix both views and opinions about the research because the participants were experts in this case. The electronic interviews were conducted personally, with each participant using emails as the instrument which collected open–ended responses, and then video calls to discuss the responses and ask semi-structured questions (Creswell, 2012). The interviews included questions about Instructional Photo, written on paper for the instructors. The photography artist interviews included written questions that described Instructional Photo from an art perspective. Those collected data were translated from the Arabic language to English by the researcher and then transcribed. The data were organized in groups, and each group were assigned a meaningful code (Creswell, 2013). In addition, the analytic strategy was used to allow the researcher to draw ideas, take notes, brief the notes, identify codes, divide the codes for the groups, and order the groups' analytic framework in literature.

This study applied triangulation to rigor the trustworthiness. The researcher collected experiential data from different participants via interviews in order to theme the data and to support that theme. This enabled the researcher to group and report the results based on exactness and trustworthiness (Creswell, 2012). The member checks were used in order to ensure the findings.

CHAPTER IV

FINDINGS

The purpose of this study was to identify a set of characteristics of Instructional Photos as an educational technology tool that helps facilitate teaching methods in order to increase student awareness of visual meaning. In addition, this study guides the instructors' selection of appropriate instructional photos to provide content with visual meaning for elementary students in the state of Kuwait as a teaching strategy that helps instructors simplify the explanation and gets the learners' to respond to the knowledge and makes the class interesting to them. This study was designed as a general qualitative research study. Email interviews were used as a collection method in order to gather experiential data from different participants. Different themes were developed from the data to support each theme; this chapter presents the data in thematic groups for each research question.

The four participants provided data from their experience in education and photography in order to explore the research questions for this study. The pseudonyms are used. Participant was recognized by numbers.as the participants participated respectively. All participants agreed that the use of Instructional Photo for educational purposes was significant, and the uses of Instructional Photo helped students relate to reality and increased the meaning of visuals.

Experience that Supports the Trust in Instructional Photo

According to participant 1, who has worked as a teacher in the Ministry of

Education in Kuwait since 1997 and who has been working as a special needs teacher

since 2012 and is currently the head of the Department of Mathematics, thought

photography was necessary and was a helpful tool to use for learning and educational

purposes. In addition, it helped to deliver information and knowledge. She described it

as a basic element for teaching young learners, especially students with special needs.

Photographs include many words, but in a visual way. It facilitated the teaching process

and reduced the need for a teacher's speech during class.

She believed Instructional Photo was a way to explain knowledge because it had a

fast and quick influence on the learner`s understanding. It facilitated the fast recall of

previous knowledge, too. It was a teaching tool that was easy to carry and to save and

was able to attract the learner`s attention and keep him/her busy looking at the details of

the photograph, which caused more understanding, absorption, and realization. The

photograph could help the student install the experience and memorize it in an easy and

fast way. Thus, it was needed for all age groups because the age of the learner, young or

old or even for college-age students, did not matter.

Paticipant 2, has been an elementary school teacher for 30 years and teaches math

and science classes, has attended curriculum development courses and computer

workshops, and has participated in an education learning tools gallery. He provides

model classes, and he received a model teacher award for the 2014-2015 school year,

considered photography as a lovely tool to deliver information. He thought it was the

best and fastest tool to install knowledge in the brain. He considered Instructional Photo

the most interesting and fastest way to promote student understanding, and it allowed the

reviewers to make a link between reality and the content that the instructional photo

provided.

Participant 3 is a photographer with a specialization in travel and people, who

began working in photography in 2006, and who has earned more than 50 international

awards. Both *National Geographic* and *Digital Camera* magazines have published many

of his photographs and articles, described this tool as the fastest media by which to carry

ideas, events, and messages that needed to be published because photographs work with

the most important human sense, which is vision. Human vision deals with things more

realistically and without doubt. The uses of Instructional Photo are very helpful for

learners. It was preferred by Participant 3, asking students to use a camera or the internet

to bring in some photos that related to the lesson as their homework. This also informed

the instructor regarding the learner's perspective of the lesson, increasing the discussion

about the photo's content from more than one points of view.

Participant 4, was a journalist photographer for the *Arab Times* from 1986 until

1989 and covered the Gulf War in 1990. He worked as a photographer reporter for

Agence France-Press (AFP) in 1990. He was a photography manager for the *Kuwait*

Times newspaper from 1990 until 2000. From 2000 to the time of the study, he was the

photographer reporter for a European press photo agency (EPA). He has also been the

photography manager for the *Aljareda Newspaper* since it was established in 2008.

Participant 4 earned many local and international awards in journalism and sport

photography, including an award for excellent press for three consecutive years

sponsored by the Kuwaiti prime minister as well as documented international awards

organized by UNESCO for two consecutive years. He thought there was no challenge to

the importance of a photo as a way to deliver knowledge because God created vision for

us as one of our senses. He said that without vision, we are unable to expand the circle of

knowledge. An appropriate Instructional Photo should help students relate to their reality

and visualizes the meaning of the content. When a professional photographer shows an

educational photo from his/her lens and perspective, it might surprise the learners; it will

definitely teach them how to look at things Therefore, the task of implementing

Instructional Photo is to visually represent the things around the learner and to increase

the visual sense for students.

Concisely, the common element that all participants expressed about Instructional

Photo is that it facilitates the teaching process and has an interesting, and quick influence

on the learner`s understanding in order to install knowledge in the brain. It is featured as

the fastest media by which to carry ideas, events, and messages. Instructional Photo

supports learners in that it helps them relate to their reality and visualize the meaning of

the knowledge content.

How do Instructors Select Instructional Photos?

The intent of the first question was to understand the appropriate ways that the

teacher can choose a photo that is used for educational purposes and to discover if there

were any differences in the value or in the content of that photo.

Educational Purposes

According to participant 1, a photograph that is used for educational purposes should aim to relate knowledge in order to facilitate learner understanding. Furthermore, it should serve the teacher's teaching and educational purposes. In addition, the photograph needs to be easy for the teacher to explain as teachers should always take into account its interest for the learner.

A photograph used for Instructional Photo cannot be just any photograph. Certain features need to be present in order for the photograph to be an effective Instructional Photo. It has to be very large in size and needs to appropriately match the class size and the student number in order to allow each student to view it in an appropriate way. It should have enough resolution to allow the teacher to expand it. Also, the photograph should provide a clear idea and message. It should have bright colors that accurately represent the nature of the photograph's content (Participant 1).

> A photograph that is used for educational purposes needs to be related to the lesson or to the teacher's goals, and it has to be appropriate in term of the learners` culture and background. The most important element that the photograph should include in order to become an instructional photo is to consider the individual differences among the learners, not only in terms of their culture and background, but also in their brain ability. (Participant 1)

The photography needs to have very clear shapes in order to serve the targeted lesson and allow the students to understand the big idea with their first look at the photo. In addition, it should avoid any additional elements that may detract the student's attention, allowing the learner to focus on just the purpose of that instructional photo (Participant 2).

> The instructor who uses instructional photos should educates his/her eyes and know how to apply an instructional photo in a smooth way. For example, the teacher who uses reading and writing as a teaching strategy has his/her way to do

it in an easy and fast way because he/she is an expert at choosing the right words to induce more meaning and has experience in choosing these motivational words. (Participant 3)

The same thing should happen with Instructional Photo, although it is a little different. Instructional Photo should directly enter the students` senses and leave a strong effect within them. An instructional photo should be able to change the students' beliefs. So, the instructor who uses instructional photos needs to pay attention to the chosen photos and know that he/she will be able to transfer the photo elements to his/her students before their use. There are a lot of subjects and positions in the photography field. Therefore, teachers have a lot of options from which to choose, but the choice has to be related to their lesson, and the chosen photo should include simplistic elements and a clear idea in order to provide a better understanding for the students (Participant 3).

The instructor might sometime use a photo related to the subject to confirm an experiment, a novel or story, or an experience in order to increase student' engagement and let them stay on track with the subject. On the other hand, the instructor might use an unrelated photo in order to increase the students` curiosity and, in this way, the students will begin to ask questions to discover what the link between the lesson and the display photo actually is. Thus, the teacher achieves their requirements, which leads the students to further investigate the link or the relationship beyond that of the photo content in the lesson material (Participant 4).

Engaging Elements

Educational photographs have to include engaging elements in order to promote the students' interest in the content. In addition, the photograph should aim to allow the

students to discuss the content, ask questions, and create their own understanding according to their interaction with the photo's content (Participant 1).

In addition, the teacher needs to know the appropriate time to show or use the photo in order to prevent any unwanted activity around or attention placed on the photo and to ensure that the students will be on track with the teacher (Participant 1).

Participant 3 described an instructional photo as the photo that includes intellectual content like a scientific explanation or documentation for the viewers. More than that, a successful photo should have balanced colors in order to get the students' attention.

> Instructional photo should be more focused on the idea of the lesson. Of importance are the simplicity of the photograph, the clarity of the idea presented, and the exclusion of any extra elements within the photo that may distract students. The avoidance of these extra elements allows the students to be more focused, increases the speed of the interaction between the content and the eyes, and takes color balance into account. (Participant 3)

A successful instructor is able to engage the students' attention, curiosity, and passion in order to keep them focused on lesson material, even with choosing a photo that is not related to the intended subject. Therefore, using the photo, by itself, as an introduction can stimulate students' visual senses in order for them to grasp the lesson content (Participant 4).

> For example, if the instructor brings a photo of a soccer player as an example of special movements in sports, this photo of the player can then grab the attention of the students. Once the teacher has the students' attention, they can make the link between or the correlation to his/her lesson. (Participant 4)

Nature and Reality

Teachers need to choose an instructional photo that well represents the learner environment in order to help students achieve their target in an easy and fast way. The

teacher should consider the simple content that the photograph possesses. In addition, the

photograph should be directed toward the majority of the students. In addition, the

teacher needs to understand his/her student's individual differences, allowing him/her to

improve the chosen photograph: "Instructors should care more about the photo's

trustworthiness in regard to accurate and current content" (Participant 1).

Participant 2, stated that any Instructional Photo should accurately represent

nature and reality, with clear shapes that allow the learners to observe the details that it

carries. It should include the source of that photo to show its credibility, and it may also

include some words that facilitate the content for the learner such as plant or flower

names. The Instructional Photo should be large enough to allow the teacher to freely

resize it so that the students who sit in the back row are able to see just as well as the

students who sit in the front row. Also, it should include the lesson's concepts and aim to

facilitate the lesson.

> The teacher should select a photo that comes from the learner's environment such
> as school, home, or daily life that allows the learner to simulate the experience.
> The teacher should consider the learner's age, too, and present appropriate photos
> that match their ages. (Participant 2)

Participant 4, believed an instructional photo is a photo that can support an

academic lesson in a practical way. Sometimes, students are not able to practice the

lesson in reality due to several factors, including space, time, or mobility conditions or

the fact that an event or thing is no longer available to watch. So, the documented photo

is the most successful way to install theory, lessons, or explanations because a photo can

connect students to their reality. Another important element of Instructional Photo is that

it gives the learners the opportunity to reflect on the truth of their eyes in their own

minds. "It is this element that receives and confirms that content actually exists in the

photo. In other words, providing an instructional photo can, in a way, be a photo that goes along with a story" (Participant 4).

How do Instructors Teach Students to Critique
Visuals for Meaning?

The intent of the second question was to provide various ways of teaching the learners how they may critique visuals for meaning. This is necessary in order to make them more familiar with visual meaning used to expand and deliver knowledge.

Background of Visual Media

According to participant 1, reading plain text is still boring, even for students who currently have readily available Internet access and who are personally capable on computers. She thinks students can perceive a photograph more comfortably because it seems that could change their way of reading the content knowledge. Visual media plays an important role in terms of explaining and delivering knowledge in a precise and interesting way. On the other hand, most contemporary learners have some background of visual media or photography from their current of past experiences in everyday life. The older generation used to learn from plain text that included white pages with black words without photos or real photographs. However, current curriculum books include more pictures which aim to visualize life concepts.

> For younger learners, Instructional Photo has an especially strong impact those who are in the first grade because Instructional Photo helps install knowledge and smooth recall skills, both which contribute to making the lesson easier to deliver and visualizes the content knowledge. (Participant 1)

Participant 2, mentioned that current students are more familiar with visual media because it is available to them every day and everywhere. Most importantly, they are dealing with it on their laptops and cellphones, both of which include a good-quality

camera. Using photographs is an excellent tool when they include specific meaning and their ideas help expand the knowledge of young learners. It is also very helpful to connect knowledge with visual intelligence.

Expand Desired Knowledge

According to participant 1, Instructional Photo helps students acquire knowledge and helps the teacher explain the lesson. So, it is not just a narrative of the lesson. It aims to increase student abilities to discover, discuss, and notice new elements of the photo and, at the same time, helps showcase previous knowledge and recall any related information from the long-term memory of the students. Also, using numerous colorful photos will especially increase a younger learner's attention, while being used to simply understand the story concept without explanation.

Instructional Photo is considered one teaching tool that aims to facilitate knowledge and helps teachers explain the lesson with more details in order to expand desired knowledge. The teacher can increase visual meaning by tying the elements that photography provides with students' perspectives. Utilizing the photograph's content provides an opportunity to increase student engagement because it has the potential to increase the students' attention. Successful photograph content includes the photograph's colors and the presentation of the photograph, which may include asking questions related to the photograph content in order to achieve the lesson target (Participant 1).

Whenever the teacher uses a real photo that is related to the lesson and the learners are made familiar with good, right, and appropriate photos, they will understand the elements within the photo and how those elements represent meaning. Those elements represent the reality around them and are also true outside of the classroom.

Instructional Photo is meaningful because it provides photos of the learner's environment

and culture or even of some of the city landmarks, allowing the learner to feel more

comfortable because he/she can connect the lesson with things to which he/she belongs in

order to expand desired knowledge (Participant 2).

According to participant 3, Photographs have a strong impact on viewers and an

even stronger impact on kids because of their curious nature. They always want to know

the details related to anything that interests them. The educator can shape and build a

younger learner's knowledge by using appropriate ways of teaching.

> For example, I had an experience with my nephew, who is 4 years old. I would
> like to share it with you. As usual after dinner, I use my computer to explore and
> investigate photographs. I have found some social photographs that present the
> relationship between a father and his sons. At that time, my nephew joined me
> and asked me about the photograph's content. I started to explain to him the
> nature of that relationship and the father's task in our life and how the sons should
> show respect and take care of their father, too. He liked exploring the
> photographs with me, and he remained with me until I, we got to undersea photos
> that include the fishes' life. He started asking me again about the undersea world,
> and I did my best to answer him and explain how the fishes can be similar to
> humans in terms of eating, family, and friendship. The next day, I saw him
> spending all day facing the pet fishes that we have in our living room and trying
> to figure out who is the daddy fish, who is the mommy fish, and he started to feed
> them. (Participant 3)

Therefore, the kid changed his idea about fish after he saw those photos that

related to them; he looked at them more deeply, while trying to simulate the experience

that he got from viewing the family photo, and now he takes care of them daily

(Participant 3).

According to participant 4, the use of a photograph makes viewers imagine a

movie or a scenario that actually happened, without watching it. The photo used should

provoke all of the viewers' senses and encourage them to imagine what happened before

or what happened after the photo was taken, which expands the desired knowledge. This

can be a starting point for the young learners as they have more passion to learn and discover because of their lack of life experiences and limited abilities to imagine and analyze things. "A smart teacher who brings in a photo is able to speak to their minds and their imagination, taking into account the individual differences between each student" (Participant 4).

Instructional Photo contributes to an increase in the students' abilities to understand the power of visual meanings. So, the teacher's task is to provide a powerful and helpful photo. The teacher has options in using different educational tools and various photos. A smart teacher not only choses the appropriate photo, but also is able to explain the elements within the used photo and explain the meaning of those elements and how they represent a visual meaning. After the invention of photography, the truth has become closer and actually visually tangible, rather than imaginative (Participant 4).

Teach Critique the Visuals Meanings

"The instructor can teach his/her learners how to critique visuals meanings by allowing them to prepare appropriate Instructional Photos from their perspective" (Participant 1). In this way, learners will be able to identify photo and lesson concepts in terms of strong or weak points when comparing all the photos as a whole and discussing their strengths or weaknesses. Therefore, the learners will get the big idea of the lesson as well as an overview of the content knowledge from the details of the photo. With this Instructional Photo method, the students will have some fun and a new, interesting way of gaining experiences and, thus, receive overall encouragement in their willingness to learn. Instructional Photo helps to make the teaching process between the teacher and the

learners smooth in order to relate content to their reality and visualize the meaning of the

learned content (Participant 1).

> In order to enable the learner to critique visuals meanings, the instructional photo
> should be available to learners as often as possible by implementing it into the
> curriculum book or the lesson book, bringing it closer to the learner; therefore,
> whenever he/she needs it, she/he can further investigate it. (Participant 2)

In the classroom, the teacher may use the standard method of showing a photo,

using a full-classroom viewing device; this allows the whole class to discuss the concept

of the photo. Or, the teacher might show a real instructional photo along with a hand-

drawn photo and have the students compare the details included in both tools. A creative

teacher might use instructional photos as stickers or puzzles to support installing the

content in the kid's brains through those activities (Participant 2).

The instructional photo that is chosen should be colorful, which means including

hot colors for the main elements in order to engage the learners and represent the

importance of those elements (Participant 3). "Using colorful photos can also be used as

a hint to students so they know what they should focus on for the main subject of the

photo. This also allows them to critique any visual meaning" (Participant 3).

According to participant 3, human sight is the most important source of

knowledge, without a doubt, as it can send a message to the human brain faster than any

other sense. That means that it requires more time must be spent teaching how we can

read photography in order to understand the visual meaning that it carries and have a

photo that is understandable, carries meaning, and is perfect looking. The instructional

photo needs to have enough detail that relates it to the subject of the lesson with an

educational aspect. Also, the teacher should consider if he/she can use his/her ability in

teaching with the photo's content that results in the instructional photo installing the knowledge into the student's brain.

The instructor can provide the content of the lesson in a way that mimics the students` natural curiosity and broadens their minds to understand what is going on around them in a real way. There are teachers who do not realize how to critique visual meanings as they should, and those methods are taught in advanced-level photography or educational courses (Participant 4).

> A perfect instructional photo may be hard for a young learner to critique, but displaying a kind of photo that assists with the lesson content may help the learner discover the difference. This may also expand their knowledge by allowing them to think how the photo might match or not match with the desired knowledge that they are learning. (Participant 4)

What Characteristics Make a Photograph Instructional?

The intent of the third question was to establish the appropriate characteristics that make a photograph applicable in an educational setting. These characteristics are related to content, appearance, and effectiveness inside the classroom.

Creates Opportunities for Discussion

According to participant 1, the description of a successful instructional photo is one that could achieve the desired target and deliver the knowledge to the learner with little explanation from and effort by the teacher. A successful instructional photo makes the most of students' senses, makes the students engage with the photo's content, and creates opportunities for discussion among the students. Thus, any photograph can be instructional if it possesses an idea that is related to the lesson, facilitates understanding, and explains the content. The photograph should be appropriate as to have students recall their previous knowledge and build upon it. The teacher should select a photo that

increases the learner's motivation and encourages them to learn more about the subject and ask question in order to break the routine of the learning process and also increase the visual culture, using it as a source of knowledge (Participant 3).

The instructor needs to pay careful attention to the photo because only certain ones are able to transfer the knowledge in a simple and easy method that makes the students more interested in the photo content and lesson content and willing to learn more. Even if the photo causes students to stray from the lesson, that is alright because the photo encourages them to work more on discovery skills, opening their mind and letting them tie things together and recall their previous knowledge (Participant 4). "One of the most important characteristics of a successful instructional photo is that it can have multiple meanings, which allows the learners to understand it in different ways, depending on each student`s point of view, and it can lead to discussion" (Participant 4).

Clear Idea and Meaning

In order to make the photograph instructional, it has to be interesting to students' needs in order to increase the students` motivation with the lesson. It should have specific meaning and a clear idea. It has to be related to their lesson as well as come from their background and address their culture. It has to include limited information in order to prevent cognitive overload (Participant 1). "The most important characteristics that make the photograph instructional are the factors of thrill and excitement that make the students surprised about the photo content" (Participant 1).

When a teacher has numerous instructional photos, she/he has to choose a larger one because that allows him/her to go to a size large enough to allow all students to examine the details from both short and long distances. In addition, the teacher must

choose a bright photograph that has colors related to the lesson because it can impact the learners in a fast and easy way (Participant 1).

The important elements that the instructional photo should have are clarity and high definition and must possess an understandable concept for all individual differences within the classroom. The instructional photo should provide details, shape, and color of things seen in nature without editing from the photographer. Therefore, it has to be natural and real (Participant 2).

According to participant 3, all photos that have a clear and direct meaning might be successful photos to use in an educational setting. Photos that have emotional meaning are preferred because that creates a powerful impact on the viewer's perspective. For that, the educator should first determine what is needed from the photo being used in order to achieve the targeted goal. "In order to make the photo instructional, it should not have any extra elements that could lead to attention deficit and confuse the learner as to what the main idea of the photo is" (Participant 3),

Simulate the Knowledge

The photo has to be in clear and strong shapes as well as colorful, as to simulate nature. The teacher must chooses photos that come from the learners` culture in order to simulate the knowledge and to achieve the desired target. In terms of the photo idea, the instructional photo should have only one goal to prevent any misunderstanding and to allow the learner to focus on that main idea in more detail. It is very important to choose a photo that has a plain background with limited elements to enable the learner to stay focused (Participant 1).

According to participant 2, Instructional Photo has to let the student recognize the concept once he/she views it. Also, it should come from the learner's environment with few elements in order to hold the learner's attention. The instructional photo has to originate from the student's background and have real colors that exemplify the reality of the photo content. "The instructional photo has to have the right dimensions and measurements of the thing or the element in the photo, and it should not be duplicated or new" (Participant 2),

A desired instructional photo is one that has an idea or concept and at least one element related to the student's culture, such as an animal that lives in the student's environment or the same type of flower, plant, or even geographical terrain. Therefore, the selections that are not related to the student's surroundings are not recommended (Participant 2).

The Power of Instructional Photo

According to participant 3, the learner can understand the interaction of the main elements in an easy and fast way, especially if teachers use some photo that affects the student's emotionally because it will stay with them for a longer period of time. "Some photographs may cause a war, and others may end it. Therefore, the teacher might add his/her perspective to the used photo in order to achieve the goals of his/her lesson" (Participant 3).

Photography able to change the human understanding of the things around him/her, and it changes people's beliefs. Sometimes, it is the teacher's task to redesign the photo concept through his/her words or explanation (Participant 3).

The Appropriate Type of Photography

Most types of photographs are good and useful for educational purposes. The instructor can choose from his/her experience the appropriate type to use for his/her purpose, and each type of class will match with a specific type of photograph (Participant 3).

According to Participant 4, the effective instructional photo is the same photo that is effective in all areas, whether educational, journalistic, or documentation. There is no difference between them in terms of carrying a message or meaning, but the one difference is the method or type of photography. "The effective photo is the photo that is able to deliver the required and desired message, honestly and clearly" (Participant 4).

An instructional photo must contain all of the aspects of a successful photo, which are story, meaning, educational object, and concept in order to present a clear and explicit message. In addition, it's important that the photo contains the effects of lighting, the color, and the degree of color to represent the content of the lesson in a real way. The appropriate instructional photo includes a story, meaning, and an educational concept able to present a clear lesson that helps the teacher facilitate more-difficult content and that needs more explanation or more detail because it can relate to reality and save effort on the part of the teacher (Participant 4).

> In the educational field, the instructor must use local photos, preferably journalist photos, because of the larger significance that they carry, their ability to infer the content and deliver the desired idea for learners, and they are closer to the realities which facilitate the understanding and comprehension of the ideas. (Participant 4)

**How does Background in Photography Influence
Pedagogical Decisions?**

The fourth question was designed to explain the influence of the teachers`
background in photography on the pedagogical decisions. Understanding the influence of
the background in photography helps in understanding the effect of increasing or
decreasing the use of Instructional Photo in pedagogy.

The Influence of Photography on Pedagogy

Participant 1 believed that a background in photography influenced pedagogical
decisions because it will help the teacher prepare the appropriate photo that aimed to
facilitate his/her task. The instructional photo is one important teaching tool, and it could
save time and effort. Therefore, the instructional designer should have some experience
in the photography field in order to select the appropriate photo that meets the lesson
needs with less speech and effort on the part of the educators. **"**Whenever the decision
makers had experience in photography, they were able to choose the right instructional
photo designed to meet the educational purpose" (Participant 1).

Participant 2, thought that a background in photography was not necessary
because it is a separate field in itself. This did not mean it was not needed as the teacher
may need to have some background in photography to help him/her choose the
appropriate and right instructional photo in terms of concept, photo composition, lighting,
and coloring. The experience of the educators could impact pedagogical decisions. It
could impact the process of designing the curriculum; the curriculum designer may
increase or decrease the number of photos or visual tools that are used in order to help the
teacher better explain the curriculum or by taking into account how the photography

experience is recommended, the designer can choose the most appropriate photo for the appropriate age group.

Participant 3, reflected that a background in photography is not needed because a teacher may have their own way of teaching that is very interesting for their students. They can deliver knowledge in an easy way, but if that teacher has some experience in photography, it will, of course, affect his/her way of teaching. Pedagogical decisions, for any educator, can be influenced.

> A person with a standard educational experience may succeed or fail in decision making, but a person with photography experience will likely add that experience to the pedagogical decision making as he/she has deep views about visual illustration and, therefore, uses visual thinking to deliver and facilitate the desired knowledge by applying the visual element, especially the photograph to close and represent reality. (Participant 3)

Participant 4 reasoned that the teacher or instructor is distinguished from the students in that she/he has academic experience. With the passage of time, he/she gains practical knowledge that leads the experience of dealing with students, and he/she becomes able to deliver the knowledge in a simple, easy, and clear way. Therefore, it is very important for the teacher to educate him/herself in the broadest field of delivering knowledge on which the world depends in order to help him/her in delivering the desired experience, information, and knowledge; that delivery field is photography. "It is necessary for the teacher to know how to read and analyze the photo, including such elements as lighting, focus, depth of field, and angle of the photo that allows the teacher to understand the photographer's message" (Participant 4).

The teacher's task is to determine the appropriate use of the photo for his/her students in terms of their ages and their backgrounds. Curriculum design is based on photos as necessary, and there is no way to ignore it because the whole world has used

photos since the inception of photography. Due to the increased use of social media, it has become necessary to depend on the photo in all areas of life, including education, which portrays the important elements in human progress and the diversity of human culture. Therefore, Participant 4 think those factors will influence the pedagogical decisions in favor of the use of Instructional Photo. The best proof of this is the prevalence, expansion and increase in the use of applications that depend on photos such as Instagram and Facebook (Participant 4).

Summary

The data obtained answered the four questions that this study was designed to investigate through rich detail provided by the participants' experiences. The findings from question 1 gives directions to teachers about how they can select instructional photos. The participants described the appropriate method to select photos in order to use them in an educational setting. They said that the photograph that is used for educational purposes should have the idea to target the knowledge in order to facilitate understanding for the learner, and it should serve the teacher with his/her teaching and educational purposes. In addition, it needs to be easy for the teacher to explain, and the teacher needs to take into account that the photo must be of interest to the learner. The instructional photo should be large enough to allow the teacher to freely resize it as to enable the students who sit in the back row to examine it just as well as the students who sit in front row. Also, it should include the lessons' concepts and facilitate the lesson.

The teacher should select a photo that comes from the learner's environment such as school, home, and daily life to allow the learner to simulate their experiences. The photo should have balanced colors in order to get the students' attention. In addition, it

should be primarily focused on the idea of the lesson. The simplicity of the photograph, the clarity of the idea, and the exclusion of any extra elements within the photo that may prevent the students from being distracted must be taken into consideration. The exclusion of extra elements allows the students to be more focused and increases the speed of the interaction between the content and the eyes, which take color balance into account. The instructional photo supports the academic lesson in a practical way. Sometimes, students are not able to practice a lesson in reality due to several factors, including space, time, mobility conditions, or the fact that an event or thing is no longer available to watch.

The themes that emerged for question 2 provides a strategy that helps teachers teach students to critique visuals for meaning. The participants in this study shared their experiences in order to explain the best ways to meet the targeted instructional strategy. They mentioned that a teacher can increase a visual meaning by tying the elements of the photograph together, which provides perspective. A teacher can increase student engagement with the photograph's content through increasing the students' attention to the photograph's colors as well as by asking questions related to the photograph's content in order to achieve the targeted lesson. The instructor can teach his/her learners how to critique visual meanings by allowing them to prepare appropriate photos from their perspective, then comparing all the photos as a whole in order to allow the learners to discuss those photo concepts in terms of strengths and weaknesses that are related to the lesson. Therefore, the learner will get the big idea of the lesson as well as an overview of the knowledge and details from the photo elements.

The instructional photo should be available to learners as often as possible by implementing it into the curriculum book or into the lesson book to make it more accessible to the learner; therefore, whenever he/she needs it, she/he can investigate it further. Or in the classroom, the teacher might use the current method of showing a photo to the entire class, therefore allowing the whole class to discuss the concept of the photo. Or, the teacher might show a real instructional photo with a hand-drawn photo and have students compare the details included in both tools. The instructional photo needs to have enough detail that it relates to the subject of the lesson with an educational aspect. Also, the teacher should consider whether he/she can match the photo's content with his/her purpose in order to have the instructional photo install the knowledge into the student's brains. The instructor can provide the content of the lesson in a way that mimics the students' natural curiosity and broadens their minds to understand what is going on around them in a real way.

Some teachers do not realize how to critique visual meanings as they should as those methods are taught in advanced course levels of photography or education. Showing a perfect instructional photo may be hard for a younger learner to critique, but displaying a kind of photo that closely relates to the lesson content may help the learner discover the differences and may also expand their knowledge by allowing them to think about how that photo may or may not match the desired knowledge that they are learning.

In this study, Question 3 targeted the identification of the characteristics that make a photograph instructional. The data shows that a successful instructional photo achieves the desired target and delivers the knowledge to the learner with less explanation and effort on the part of the teacher. A successful instructional photo uses

the majority of students' senses and makes the students engage with the photo content, creating opportunities for discussion among the students. In order to make the photograph instructional, it has to be interesting to the students' needs. It should have specific meaning and a clear idea. It has to be related to their lesson as well as come from their background and address their culture. It has to include limited information in order to prevent a full cognitive overload. The photo has to be in clear and strong shapes that simulate nature.

The instructional photo has to originate from the student's background and have real colors that exemplify the reality of the photo content. The instructional photo has to have the right dimensions and measurements of the thing or the element displayed in the photo, and it should not be duplicated or new. The most-wanted Instructional Photo is one that possesses the idea or concept and at least one element related to the student's culture, such as an animal that lives in the student's environment or the same type of flower, plant, or even the geographical terrain.

A photo that has emotional meaning is preferred because that photo has a powerful impact on the viewer's perspective. To that end, the educator should first determine what is needed from the photo used in order to achieve the target. In order to make the photo instructional, it should not have any extra elements that might lead to attention deficit in the learner or confuse the learner as to what is the main idea of the photo. Therefore, the learner can understand the interaction of the main elements in an easy and fast way, especially if a teacher has a photo that affects the students emotionally because it will stay with them for a longer period of time.

An instructional photo must contain all of the aspects of a successful photo, which include having a story, a meaning, an educational object, and a concept in order to present a clear and explicit message. In addition, the instructional photo must consider the effects of the lighting, the color, and the degree of color to represent the content of the lesson in a real way. The instructor needs to carefully consider the photo that is able to transfer the knowledge in a simple and easy method that makes the students more interested in the photo content and lesson content and willing to learn more. Even if they stray from the lesson, the photo encourages them to work more on discovery skills, which opens their mind and allows them to make connections and recall their previous knowledge. The most important characteristic of the photo is that the photo has multiple meanings, which allows each learner to understand it in a different way, depending on each student's point of view that could lead to discussion.

Question 4 was designed to explain the influence of the teacher's background in photography on his/her pedagogical decisions. The results display that the background in photography influences pedagogical decisions because it helps the teacher prepare appropriate and effective instructional photos to facilitate his/her task. The instructional photo is one important teaching tool, and it could save time and effort.

The experience of the educators can impact pedagogical decisions. It could impact the process of designing the curriculum where the curriculum designer may increase or decrease the number of photos or visual tools that are used in order to help the teacher better explain the curriculum. Also, taking into account recommended photography experience, the designer can choose the most appropriate photo for the specific age group.

Pedagogical decisions, for any educator, can be influenced. So, a person with standard educational experience may succeed or fail in decision making with instructional photos, but a person with photography experience will likely add their experience to the pedagogical decision making as he/she has a deeper view about visual illustration and, therefore, uses visual thinking to deliver and facilitate the desired knowledge by applying visual elements, especially the photograph, to closely represent reality.

CHAPTER V

CONCLUSION

Introduction

This study explored the appropriate characteristics of Instructional Photos as a support in elementary settings in order to determine how to apply those characteristics to help solve the educational issues in Kuwait, including two specific elements. The first is the current Kuwaiti curriculum. The second element is the difficulty working with the science education authority and the apathy regarding practical activities and limited access to applicable technologic tools. In addition, some teachers in Kuwait are forced to explain some of their lessons without technological support or with the wrong tools. Therefore, this research was designed to identify a visual tool that helps a learner visualize the content in order to stimulate the learning, even with the current limitations facing Kuwaiti schools.

Purpose

Due to the fact that photography is a media and an educational technology tool, it has the ability to improve the educational setting and develop teaching styles. In addition, some research showed that people's memories of photos are far stronger than their verbal memories (Wirth & Perkins, 2008). Other research presented indicated that the application of multimedia for teaching language or theory classes or learning literature supported the insertion of visual aids in teaching that permit trustworthy

communication between students and literary texts (Yunus, Salehi, & John, 2013). Many learners felt more content with getting information that was provided to them in a visually stimulating style as a result of having grown up with a selection of visual tools such as photos, television, video games, and computers (Hove & Corcoran, 2008).

Most educators believe in applying educational technology tools. However, there is not sufficient explanation about what the appropriate visual educational tools are and how they are used. The lack of such descriptions of appropriate visual educational tools was one reason for the researcher to establish characteristics that make an effective tool in order to address this educational issue and remain appropriate for elementary students in Kuwait.

The researcher's background in the photography field helped to increase the awareness of vision as a source of knowledge. The researcher worked in the journalism field; thus, he trusts that a photo is worth a thousand words in terms of delivery of news and events. The researcher believes that the use of photography in the educational field helps connect students to the knowledge and, especially for young leaners as well as in the press field, it helps to visually solve educational issues. The modern way to spread information is visual, rather than written or pressed (Arslan & Nalinci, 2014). Using visuals in teaching requires research, identification, and assessment skills particular to the visual materials that are expected to be used (Arslan & Nalinci, 2014).

This study answers four research questions that identify the appropriate characteristics of Instructional Photos as a tool to be used in elementary schools in Kuwait. These questions are:

Q1   How do instructors select instructional photos?

Q2   How do instructors teach students to critique visuals for meaning?

Q3   What characteristics make a photograph instructional?

Q4   How does a background in photography influence pedagogical decisions?

Discussion

As the results showed in chapter IV of this manuscript, the appropriate and brief description of the characteristics of Instructional Photo as a teaching tool for elementary students need to be:

1. The photo that is chosen for educational purposes must serve the teacher, which means it should include clear ideas and clear messages in order to relate to the desired knowledge and facilitate content better aligned with student contexts that needed additional illustrations or details.

2. The elements of Instructional Photo should be interesting to the learner in terms of delivering knowledge with less explanation and effort by the teacher. This aligns with literature in the field. Instructional Photo application in teaching decreases teacher`s time and effort and support learners in finding their creativity and increasing their understanding of the lesson content (Yunus, Salehi, & John, 2013).

3. The size of the instructional photo has to be appropriate in order to match the class size and population, ensuring that each student is able to see it in an appropriate way. In other words, the resolution of the digital instructional photo should be flexible, and the teacher should be able to minimize or maximize its size and provide it in the most useful medium.

4. Instructional Photo should be able to allow the learner to visualize the content and even help to explain more-difficult content in an interesting way for the learners

(Expert Interviews). Instructional Photo needs to provide direct transportation of knowledge to students' minds and the embedding of concepts into their long-term memories. The selection of the photo to accomplish this transfer of knowledge requires some knowledge of photography to choose appropriate compositions of photos.

5. Instructional photos must be able to prompt change in the students' beliefs, not just narrate the lesson. The photo should challenge students' critical understandings about the content and provide a new depth of understanding. Teachers, thus, need to teach the lesson with related material, planned education material, and education material presented in a way that ensures that it is stored in long-term memory (Mayer, 2008). Helping students to interpret photos is a key part of this process (Danesi, 2007).

6. Photos that are applied in an educational setting should appear as pieces of art with the right colors and balance, which includes using hot colors for the main elements in order to engage the learners, represent the importance of those elements, and to provide hints that allow students to focus on the main subject of the photo and critique any visual meaning (Expert Interview). In addition, the colors should represent the nature and realism of the content, which means using the correct dimensions and measurements of the element in the photo so that it is accurate. Lastly, the photo should possess the correct light exposure. The educational aspect of the photo needs to focus more on art as a cultural system, confirming the relationship between art and the knowledge around us (Aguirre, 2004).

7. Instructional Photo should portray clear shapes and provide familiar photos to be a good representation of the learner's environment, such as his/her school, home and daily life, in order to motivate the learner and speed up the transition of knowledge as

well as the communication between the content and the learners` eyes. Ultimately this helps the students feel more comfortable because they can tie things in the lesson with things that exist in their lives. The instructional photo needs to be pleasing to the eye, visually balanced, and descriptive because photographs are able to bring words and concepts to the classroom (Byrnes & Wasik, 2009).

Therefore, selecting Instructional Photo should take semiotics theory into account. Semiotics is cooperative because it is the basis of different areas of personal knowledge; the core idea of it is that signs are not understandable by themselves in the absolute, but are understood in relation to other signs. Therefore, we can identify a meaning for a single sign or symbol because it is dependent on how other signs are presently related to an individual or culture (Danesi, 2007).

8. Instructional Photo needs to be able to speak to learners` minds and imaginations, be connected to the lesson content, and be relatable to the learners` culture and background. Photos must include a specific purpose, and they need to address viewers' backgrounds and their own prior experiences in order to support learning the required knowledge (Holm, 2008). Instructional photos takes into account the individual differences between students, not just in terms of culture and background, but also in caring about their brain ability. The Instructional Photo method has the capability to solve individual differences between students. Also, it opens the learners' gates to instructional content. The findings in this study are supported by Hune`s (2004) ideas about strategy of learning through the difficulty of assistive devices.

9. A strong Instructional photo directs the majority of learners and needs to provide engaging elements to increase student interest in the content. Content should

also be accurate and current. It mimics the students` natural curiosity and broadens their

minds to understand what is going on around them in a real way. Therefore, it leads the

learners to a discussion and their asking questions, and then it has them construct their

own understanding as a result of that. This use of Instructional Photo provides a

stimulant for engaged learning and leads to social interaction and conversation between

the learners about the photo content (McKenzie & Ozkan, 2009).

Also, Instructional Photo encourages students to connect educational content to

the things around them and to recall their prior knowledge. Instructional Photo is using a

simple photograph, which means it excludes any extra elements that may cause a

decrease in student attention in order to prevent a cognitive overload. Educational photos

must take into account a student's perceptual abilities in order to efficiently and

effectively transfer messages (Avgerinou & Ericson, 1997). At the same time, they need

to contain enough detail so that they relate to the subject of the lesson with an educational

aspect. In other words, an instructional photo should include only one goal in order to

prevent any misunderstanding and to let the learner to focus on that idea in more detail.

Instructional photos also need to include the thrill or excitement factor regarding the

photo content because that will surprise the students, increasing their willingness to know

more as well as their curiosity. Learners might use photos for support in viewing

examples of work created by other people and increasing their perceptions about the

subject (McKenzie & Ozkan, 2009).

10. The description of appropriate instructional photos includes that it be a

documented photo because it can show the students a certain reality and help to install

theory, lessons, or explanations. The documented photo gives the learner the impression

that it reflects the truth in their eyes and minds, allowing learners to imagine a movie or a scenario that actually happened, without watching it. The use of photography for learning purposes certifies the learners connecting the knowledge presented in the instructional photo to other areas of experience that might be hard to recall such as science or language arts (Cope, 1981).

11. Instructional Photo can confirm that the photo content actually exists, and it leads the learners to understand the concept in a different way, depending on each student`s point of view. It can support the instructor if she/he shows that the instructional photo can be a photo to go with a story. In terms of teaching with Instructional Photo, instructors from this study prefer using photos that have emotional meaning because it has a powerful impact on the viewer's perspective. A visual approach contains cognitive and emotional scopes with respect to the reception and the mien of visual connection (Pantaleo, 2015). At other times, using local photos and journalistic photos is preferred because of the larger meaning that they carry as well as their ability to deduce the content, deliver the desired idea to learners, and show the comprehension of these ideas.

12. Instructional Photo, and its photo concept, must be flexible enough to be redesigned with teacher words or explanations, able to increase visual culture, and used as a source of knowledge (Expert Interview). It is very important for Instructional Photo to contain all of the aspects of an effective photo, which are inclusion of story, meaning, educational object, and perception in order to show a strong and explicit message.

In terms of how learners can critique visual meaning, instructors can provide activities inside or outside classroom. The instructor might ask students to bring instructional photos from the students' perspectives, giving them a chance to identify

photos that match the lesson concepts. Then, the instructor can compare all the photos together and open a discussion to critique any strengths or weaknesses. As a result, the students will generalize the concept of the content knowledge from the details of the photos. On the other hand, instructors might bring instructional photos to compare with hand-drawn pictures, allowing the learners to discover the differences in term of details and reality. Or, the teacher might use instructional photos as stickers or puzzles, encouraging the learners to become more interactive with the details of the instructional photo. However, it is important for teachers to use some instructional photos that are not related to the lesson because that will increase the discovery skills of the learners and the application of their critiquing skills.

The instructional designer or the instructor who chooses the instructional photo must have some background in photography to be able to select appropriate photos that meet the lesson needs in terms of concept, photo composition, lighting, and coloring. Photography experience can impact the process of designing the curriculum, such as increasing or decreasing the number of photos or visual tools that are used. It is essential for the instructor to be able to read the photo and analyze the included elements such as lighting, focus, depth of field, and angle in order to understand the photographer's meaning. Education needs to include more of the art aspect in order to avoid the abstract perspective of a lesson (Lee, 2009). Having a decision-maker who has a background in photography will lead to the selection of successful instructional photos that are intended to meet an educational purpose. Modern visual media and visual technology do not need a nominal education because they are constructed to use our visual capacities advantages (Lee, 2009). More than that, visualizing content becomes an essential skill, and it is

important for everyone in the educational setting to permit the designer to read and explain information shown through modern visual methods, such as computer systems, television, photos, videophones, advertising, and movies (Davis, 2008).

This study provided a guide for teachers, trainers, coaches, instructors, and anyone else who desires delivering knowledge by using appropriate visual tools that present the content with visual meaning to elementary students in the state of Kuwait, using Instructional Photo as a teaching method that supports teachers, facilitates content clarification, and gets the learners' attention focused on the knowledge, making the lesson motivating to them. In addition, Instructional Photo recommended using photography styles or types that determine the points within the photo. Photos are different in medium, style, and way and purpose of structure/composition in addition to their uses, sites of display, and how and to what level they are linked with other modes (Pantaleo, 2015). Therefore, taking into account those characteristics of Instructional Photos and applying them in the Kuwaiti curriculum will address the different aspect of the educational issue, the use of inefficient educational tools. With the acknowledgment of these Instructional Photo characteristics, a change in methodology for teaching may also occur, and the use of a visual tool will consider the learner's background. We need to increase the teacher's awareness of using visual tools and the power that they have as a teaching method. Photography is a mode to transmit a meaning as a wealthy visual statement (Manzella, 1957).

Recommendations for Effective Use

Based on the findings of this study, a few recommendations for an elementary teacher can be made. Teachers should know when (e.g., at the beginning, the middle, or

the end of the class or during the entire class time) and how to apply Instructional Photo

in order to make classes more interactive with photo`s content. The teacher might apply

characteristics of instructional photos or use instructional photos that are not obviously

related to the lesson in order to open the students' minds and let them think and try to link

the photo content with the lesson, increasing their brain-storming abilities and letting

them think beyond the content. Even when teachers show the students more than one

instructional photo in a serial way, each one should adhere to those characteristics in

order to show students the subject from different points of view. Teachers might teach

those characteristics to his/her learners and ask them to bring instructional photos as

homework and open discussions about those photos in order to provide the content from

more than one position. All photos are the exclusive property of the photographer who

snapped them because the photographer works hard and spends time and effort in order to

show his/her concept in the best way. Photographs are the intellectual property of the

creator. The user of Instructional Photo has to take in account the copyright of any photo

he/she includes during instruction. He/she needs to include the source of that photo to

show credibility and give the photographer the credit that he/she deserves. If the name of

the photographer is not available the user needs to address the other source such as,

webpage, library, and gallery. By showing the source of that photo, the teacher is

showing his/her students honesty and sincerity of presenting knowledge, so they learn, in

not a direct way how they should get and deliver information, data, and knowledge.

Therefore, respecting the copy right is a way to show a respect for the intellectual

property rights. While this is a significant element of using photos in instruction, it was

discussed little by the participants. Finally, it is highly recommended that the teacher

takes some photography courses in order to increase their skills in choosing good instructional photos that are appropriate for their content.

Future Considerations

It is recommended that future research apply the instructional photo characteristics identified in this study to different educational levels, such as middle school or high school, to confirm whether those characteristics impact student understanding or whether Instructional Photo can be used as an effective teaching tool by the teacher. Any future researchers might redesign this study by using the same or different photo characteristics and implementing their use in different regions to either generate them or develop them. Another recommendation for future research is to use the same instructional photo characteristics with different visual educational tools such as instructional video, diagrams, drawings, graphics, or educational models. A future researcher might take those characteristics and use them for training or coaching purposes to improve the effectiveness of said characteristics. Future research could include additional qualitative techniques such as observations of the application of different types of Instructional Photo or using a quantitative approach to identify new or additional instructional photo characteristics.

The decision maker in pedagogical techniques need to understand the idea of the movement of STEM to STEAM which is adding art to the education and let the visual art represented by Instructional Photo blends with Science, Technology, Engineering, and Math, in order to support the correlation among the two sides of the student`s brain to have the ultimate innovation potential. Educators can provide different cultural education by use of visual arts because it plays a dynamic role to facilitate the understanding of

different human experiences (Bailey & Desai, 2005). The STEM to STEAM movement

aims to convert theoretic content to more visual art. Also, it encourages decision makers

to have artistic designers who provide more innovations and use artistic aspects more in

all levels of education. Adding the artistic aspects in the learning system is not about

increasing the budget of schools, but rather to help increase the mental mission by

visualizing the knowledge in an artistic way. Arts can be a powerful bridge that delivers

and have the opportunity to simplify and improve our consciousness to understand

different aspects of knowing what our brain may contain or disregard (Bailey & Desai,

2005). The findings in this research can support the fundamentals of including art, in this

case as photography, into scientifically based content learning.

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APPENDIX A

THE INSTRUCTOR INTERVIEW QUESTIONS

The Instructor Interview Questions

Tell me who you are and your experience in the education field? (Name is option)

Research Question 1, how do instructors select instructional photos?

- Tell me what you think about the photograph as a way of delivering knowledge?

- How do you think a photograph in educational setting should look like?

- What are the elements should photograph include in order to become instructional photo?

- How do you think the instructor should select instructional photo that support his/her lesson?

- What can you do to improve a photograph as media that you used to make it instructional in order to help you provide better understanding?

Research Question 2, How do instructors teach students to critique visuals for meaning?

- The use of visual media is expanded, how the current students can perceive photograph that has visual meaning comparing with old generation?

- How do you think those photograph as visual tool impact young learners?

- How instructional photo may lead students to increase a visual meaning? And how you would teach them that?

- How may instructional photo present your content and make it meaningful to your learners?

- In which method you would like to use instructional photo and how you would present it in order to make the learner critique visuals meanings?

- What is your belief about using instructional photo that help your students relate to their reality and visuals the meaning?

Research Question 3, what characteristics make a photograph instructional?

- How you describe a successful photograph that may use for educational setting?

- What are the important things should photograph include in order to make it instructional?

- Can you describe some characteristics that make a photograph an appropriate instructional?

- If you have a lot of photographs, which one you would chose in term of instructional? And Why?

Research Question 4, how does background in photography influence pedagogical decisions?

- Do you think the teacher experience of photography is needed? Why and why not?

- How the photograph background of teacher may influence negatively or positively the pedagogical decisions?

APPENDIX B

THE PHOTOGRAPHER INTERVIEW QUESTIONS

The Photographer Interview Questions

Tell who you are and about your experience in the photography field? (Name is option.)

Research Question 1, how do instructors select instructional photos?

- Tell me what you think about the photograph as a way of delivering knowledge?

- Describe to me what successful photo is and how it may apply in educational setting?

- What are the elements should photograph include in order to become instructional photo?

- How do you think the instructor should select instructional photo that support his/her lesson?

- How can you advice a instructors to have a best choice of photographs that use as instructional tools aims to help teacher provide better understanding?

Research Question 2, How do instructors teach students to critique visuals for meaning?

- How the photograph may use for delivering visual meaning?

- How do you think those photographs as visual tool impact young learners?

- How instructional photo may lead students to increase a visual meaning?

- How may instructional photo present content and make it meaningful to learners?

- In which method teacher should use instructional photo and how she/he present it in order to make the learner critique visuals meanings?

- What is your belief about using instructional photo that help students relate to their reality and visuals the meaning?

Research Question 3, what characteristics make a photograph instructional?

- How you describe a successful photograph that may use for educational setting?

- What are the important things should photograph include in order to make it instructional?

- Imagining that there is a teacher, who has no experience in the photography field, can you describe some characteristics that make a photograph an appropriate instructional?

- If you have a lot of photographs, which one you would chose in term of instructional? And Why?

- Which type of photo would be useful for education purposes? Why?

Research Question 4, how does background in photography influence pedagogical decisions?

- Do you think the teacher experience of photography is needed? Why and why not?

- How the photograph background of teacher may influence negatively or positively the pedagogical decisions?

APPENDIX C

THE INSTRUCTOR INTERVIEW TRANSCRIPT

Instructor Interview

Participant 1

Researcher: Tell me about little bit about yourself and your experience in the education field?

Participant 1: I graduated from Kuwait University in 1987, school of science. I have been a teacher in the Ministry of education in Kuwait since 1997. Right now, I am working as a special needs teacher since 2012 and I am head of the department of Mathematics.

Researcher: Tell me what you think about the photograph as a way of delivering knowledge?

Participant 1: It is an important, necessary, and helpful tool to use for learning and educational purpose. In addition, it helps to deliver the information and the knowledge. It seems to me, it is basic element for teaching young learners, especially the special needs students. The photograph includes a lot of words but in visual way. It facilitates the teaching process and reduces the teacher speech during the class. For that, it is a way to explain the knowledge because it has a fast and quick influence on the learner`s understanding. It facilitates the fast recall for the previous knowledge too. The photograph can help the student to install the experience and memorize it in easy and fast way. It is needed for all age groups and does not matter the learners age young or old or even for college students. It is a teaching tool that is easy to carry and to save and is able to get the learner`s attention and keep him/her busy looking at the photograph details which cause more understanding, absorption, and realizations.

Researcher: How do you think a photograph in an educational setting should look like?

Participant 1: The photograph that is used for educational purpose should have the idea to target to close the knowledge in order to facilitate the understanding for the learner and it should serve the teacher with his/her teaching and educational purpose. In addition, it needs to be easy for the teacher to explain and take in account that it should interest the learner.

Researcher: What do you think or what is your opinion about the elements the photograph should include in order to become an instructional photo?

Participant 1: The photograph has to be very big in size that matches the class size and the student number in order to allow each student to watch it in an appropriate way. it should have enough resolution that allows the teacher to expand it. Also, the photograph should have a clear idea and clear message. It should have the right and bright color that represent the nature and realism. The photograph that is used in an educational purpose needs to be related to the lesson or to the teacher goals and it has to be appropriate in term of the learners` culture and background. The most important element the photograph should include in order to become an instructional photo is to take in account the individual differences among the learners not just in terms of culture and background but also caring about their brain ability. The photograph that is used in education has to include the engagement element in order to make the students more interested about the content. In addition, the photograph should aim to let the student discuss the content, ask questions, and create their own understanding according to their interactions with the photo content.

Researcher: How do you think the instructor should select an instructional photo that support his/her lesson?

Participant 1: The teacher needs to choose the instructional photo that has a good representative to the learner environment in order to help students to achieve the target in an easy and fast way. The teacher should care about the easy content that the photography could have. The educator should care more about the photo trustworthiness for the content and should be accurate and current. In addition, the photograph should direct to the majority of the students.

Researcher: What can you do to improve a photograph as media that you used to make it instructional in order to help you provide better understanding?

Participant 1: First, the teacher needs to understand his/her student's individual differences to let him/her improve the chosen photograph. In other hands, the teacher can ask the learner some question as a feedback to inform him/her about the learner`s understanding level. In addition, the teacher needs to know the appropriate time to show or use the photo in order to prevent any unwanted activity or attention on the photo and to let the student be in track with teacher order.

Researcher: The use of visual media is expanded. How can the current students perceive a photograph that has visual meaning compared with the old generation?

Participant 1: From my prospective, the current students who have available access to the internet most of the time and who are able to learn from a computer by themselves, it is still boring to them if they just read plain text. I think they can perceive the photograph

more comfortably because it seems it could change their way of reading the knowledge. Visual media plays an important role in term explaining and delivering the knowledge in a right and interesting way. On the other hand, most of the learners in current days have some background of visual media or photography from their daily life or their own trips (family and friends) from their memory. The old generation used to learn from plain text that included white page with black words without photos or really photographs, but with current crrciluim books that include more pictures aim to picture the life concepts.

Researcher: How do you think those photographs as visual tools impact young learners?

Participant 1: I think it has a strong impact on the young students especially in those who are in the first grades because the instructional photo helps to install the knowledge and smooth recall the information, makes the experience more easy to deliver, and pictures the knowledge.

Researcher: How can an instructional photo lead students to increase a visual meaning? And how you would teach them that?

Participant 1: The instructional photo considers one of teaching tools that aims to facilitate the knowledge and it is a tool that helps the teacher to explain the lesson in more details in order to expand the wanted knowledge. The teacher can achieve this target by tying the elements that photography provides with students perspective and with teacher ability of increasing the student engagement of the photograph content through increasing the students' attention by the photograph colors and showing way of the photograph by asking questions related to the photograph content in order to achieve the lesson target.

Researcher: How may instructional photo present your content and make it meaningful to your learners?

Participant 1: We agree that the instructional photo is helping the student acquisition knowledge and help the teacher to explain the lesson. So, it is not just narrative the lesson. It aims to increase the student ability to discover, discuss, and notice the new element of the photo and at the same helps to appear the previous knowledge and recall the information from the long-term memory of the students that is related to the photo content in order to grow the knowledge. For that, the young students' stories have a lot of colorful photos that aim to get learner attention in order to understand the story concept without explanation.

Researcher: In which method would you like to use instructional photo and how would you present it in order to make the learner critique visuals meanings?

Participant 1: By allowing the learner to prepare the appropriate photo from their perspective, then comparing all the photos together in order to let the learner discuss those photo concepts in term of the strong or weak points that are related to the lesson. Therefore, the learner will get the big idea of the lesson and overview of the knowledge and details from the photo elements. So, with this method of using the instructional photo the students will have some fun time and interesting way of getting experiences. Thus, encourage the learning willing.

Researcher: What is your belief about using instructional photo that help your students relate to their reality and visuals the meaning?

Participant 1: As I mentioned before, the instructional photo aims to let the learner understand the content in a fast way and clarifies the difficult content and it helps to make the teaching process smooth between the teacher and the learners. It is a tool that saves time and the effort. I think it is very helpful for those students who have a hearing difficulty. It is the favorite teaching tool for the pre-school kids.

Researcher: How do you describe a successful photograph that may be used for educational setting?

Participant 1: The description of the successful instructional photo is when it could achieve the wanted target and deliver the knowledge to the learner with less explanation and effort from the teacher. The successful instructional photo is that the photo could use the most of students' senses and make the students engage with the photo content and create opportunities for discussion among the students.

Researcher: What are the important things of photograph should include in order to make it instructional?

Participant 1: Any photograph can be instructional if it has an idea that is related to the lesson and facilitates understanding and explains the content and this photograph should be appropriate to let the students recall their previous knowledge and build on it.

Researcher: Can you describe some characteristics that make a photograph an appropriate instructional?

Participant 1: In order to make the photograph instructional it has to be interesting to the students' needs. Let them get engaged with lesson. It should have specific meaning and a

clear idea. It has to be related to their lesson and come from their background and address their culture. It has to include limited information in order to prevent the cognitive load. The photo has to be in clear and strong shape and colorful that stimulate the nature. The most important characteristics that make the photograph instructional is the factor of thrill and excitement that make the students surprised about the photo content.

Researcher: If you have a lot of photographs, which one would you chose in terms of instructional? And why?

Participant 1: I will choose the big one because it allows me to go to the big size of it in order to let all students watch the details from short and long distances. Next, I will choose the bright one that has color close to the lesson that I will use it for because it can impact the learners in a fast and easy way. Then, I will choose the photo that came from the learners` culture in order to stimulate the knowledge and to achieve the needed target. In term of the photo idea, I will choose the instructional photo that has one goal to prevent any misunderstanding and to let the learner focus on this idea in more detail. It is very important to choose a photo that has plain background with limited elements to let the learner stay focused.

Researcher: Do you think the teacher experience of photography is needed? Why and why not?

Participant 1: Yes, because that will help the teacher to prepare the appropriate one that aims to facilitate his/her task.

Researcher: How can the photograph background of teacher influence negatively or positively the pedagogical decisions?

Participant 1: As I mentioned before, the instructional photo is one of the important teaching tools and it could save time and effort. Therefore, the instructional designer should have some experience in the photography field in order to select the appropriate photo that meets the lesson need with less speech and effort from the educators. For that, whenever the decision makers have experience in photography, they will be able to choose the right instructional photo that is designed to meet the educational purpose.

Instructor Interview

Participant 2

Researcher: Please tell me who you are and your experience in the education field?

Participant 2: I am elementary teacher for 30 years. I teach math and science classes. I have attended curriculum development courses, computer workshops, and have participated in an education learning tools gallery. I provide model classes and I received a model teacher award for the 2014-2015 school year.

Researcher: What do you think about photography as a way of delivering knowledge?

Participant 2: Photography is a lovely tool to deliver information. It is the best and fastest tool to install knowledge in the brain.

Researcher: What do you think a photograph in an educational setting should look like?

Participant 2: It should look like nature and reality with clear shapes that allow the learners to watch the details that it carries. It should include the source of that photo to

show credibility and it may include some words to facilitate the content to the learner such as plant or flowers names.

Researcher: What are the elements that a photograph should include in order to be considered an instructional photo?

Participant 2: It should be big enough and allow the teacher to resize it freely to have the students who sit in the back row able to watch just as well as the students who sit in front row. Also, it should include the lesson concepts and aims to facilitate the lesson.

Researcher: How do you think the instructor should select instructional photos that support his/her lesson?

Participant 2: The teacher should select a photo that comes from the learner's environment such as school, home and daily life, to allow the learner to stimulate the experience. The teacher should care about the learner's age too and bring appropriate photos that match their ages.

Researcher: What can you do to improve a photograph as media that you used to make it instructional in order to help you provide better understanding?

Participant 2: The photography needs to have more clear shapes to serve the lesson target and allow the students to understand the big idea from their first look. In addition, I would say that I neglect any additional elements that may detract the student's attention, as to allow the learner to focus just on the purpose of that instructional photo. The creative teacher may use instructional photos as stickers or puzzles to support installing the content in the kid's brains through those activities.

Researcher: The use of visual media is expanded, how the current students can perceive photograph that has visual meaning comparing with old generation?

Participant 2: The current students are more familiar with visual media because it is available to them every day and everywhere and they are dealing with it on their laptops and cellphones, which both include a good quality camera.

Researcher: How do you think those photograph as visual tool impact young learners?

Participant 2: The photographs is an excellent tool when it includes specific meaning and it's idea helps expand the knowledge of young learners and it is very helpful to connect knowledge with visual intelligence.

Researcher: How instructional photo may lead students to increase a visual meaning? And how you would teach them that?

Participant 2: Whenever the teacher used to bring a real photo that related to the lesson, that made the learners familiar with good, right, appropriate photos because they will understand the element inside the photo and how those elements represent meaning. Those elements represent the reality around them and is also true outside of school.

Researcher: How may instructional photo present your content and make it meaningful to your learners?

Participant 2: Actually, the instructional photo is meaningful because it provides a picture from the learner's environment and culture or even some of the city landmarks that make

the learner feel more comfortable because he/she can connect to the lesson with things that he/she belongs to.

Researcher: In which method you would like to use instructional photo and how you would present it in order to make the learner critique visuals meanings?

Participant 2: I think making the instructional photo available to learners as much as we can by implementing it into the curriculum book or in the lesson book to make it closer to the learner therefore, whenever he/she needs it she/he can investigate it more. Or in the classroom, the teacher may use the current way of showing a photo which is using the data show device and allowing the whole class to discuss the concept of the photo. Or showing a real instructional photo with a drawing photo and have the students compare the details included in both tools.

Researcher: What is your belief about using instructional photo that help your students relate to their reality and visuals the meaning?

Participant 2: I think it is considered as the most interesting and fastest way to have students understand and it allows the reviewers to make a link between reality and the content that the instructional photo provided.

Researcher: How you describe a successful photograph that may use for educational setting?

Participant 2: The photo has the student recognize the concept once he/she views it. Also, it should come from the learner environment with less elements in order to save the learner's attention.

Researcher: What are the important things should photograph include in order to make it instructional?

Participant 2: The important things that the photo should have that makes it instructional are clarity, high definition and understandable concept for all individual differences inside the classroom. The instructional photo should provide details, shape, and color of the things as you see it in nature without any editing from the photographer. So, it has to be natural and real.

Researcher: Can you describe some characteristics that make a photograph an appropriate instructional?

Participant 2: The instructional photo has to originate from the student's background and have real colors that exemplify the reality of the photo content. The instructional photo has to have the right dimensions and measurement of the thing or the element in the photo and it should be not duplicated or new.

Researcher: If you have a lot of photographs, which one you would chose in term of instructional? And Why?

Participant 2: I think the one that will impose itself is the one that has the idea or concept and at least one element related to the student's culture; such as an animal that lives in the student's environment or the same type of flower or planet or even the geographical terrain. I would prevent any selections that are not related to the student's surroundings.

Researcher: Do you think the teacher experience of photography is needed? Why and why not?

Participant 2: It is not necessary because it is a separate field by itself. This does not mean it is not needed, the teacher may need to have some background of photography to help him/her choose the appropriate and right instructional photo in term of concept, photo composition, lighting, and coloring.

Researcher: How the photograph background of teacher may influence negatively or positively the pedagogical decisions?

Participant 2: The experience of the educators could impact pedagogical decisions. It could impact the process of designing the curriculum; where the curriculum designer may increase or decrease the number of photos or visual tools that are used in order to help the teacher explain better. Also, taking in account how photography experience is recommended so the designer can choose the most appropriate photo for the appropriate age group.

APPENDIX D

THE PHOTOGRAPHER INTERVIEW TRANSCRIPT

The Photography Artist Interview

Participant 3

Researcher: Tell who you are and about your experience in the photography field? (Name is option.)

Participant 3: I am photographer with a specialization in travel and people. I started photography in 2006. I have earned more than 50 international awards. The last award I got was first place in Sheikh Hamdan photography competition (HIPA) in which the main subject of the competition was making the future. Both National Geographic and Digital Camera are very famous magazines in the photography world and have published a lot of my photographs and articles. In addition, some of our local magazines have too.

Researcher: Tell me what you think about the photograph as a way of delivering knowledge?

Participant 3: From my experience, I have found that the photograph is the fastest media to carry ideas, events, and messages that need to be published because photographs work with most important human sense, which is vision. The human vision deals with things more realistic and without doubt.

Researcher: Describe to me what successful photo is and how it may apply in educational setting?

Participant 3: A successful photo includes intellectual content like a scientific explanation or documentation for the viewers. More than that, a successful photo should have

balanced colors in order to get the students' attention. In addition, it should be more focused on the idea of the lesson.

Researcher: What are the elements should photograph include in order to become instructional photo?

Participant 3: The simplicity of the photographs, the clarity of the idea, and the prevention of any extra elements inside the photo that may distract students. The avoidance of these extra elements allow the students be more focused and increase the speed of the interaction between the content and the eyes and takes color balance into account.

Researcher: How do you think the instructor should select instructional photo that support his/her lesson?

Participant 3: From my perspective, the instructor who uses instructional photos should culture his/her eyes and know how to apply the instructional photo in a smooth way. For example, the teacher who uses reading and writing as a teaching strategy has his/her way to do it in an easy and fast way because he/she is an expert at choosing the right words to induce more meaning and has experience in choosing these motivations words. The same thing should happen with instructional photo although it is a little difference. The instructional photo should enter directly to students` sense and leave a strong effect inside them. The instructional photo should be able to change the students' beliefs. So, the instructor who uses instructional photos needs to pay attention to the chosen photos and be able to transfer the photo elements to his/her student before use.

Researcher: How can you advice a instructors to have a best choice of photographs that use as instructional tools aims to help teacher provide better understanding?

Participant 3: There is a lot of subjects and positions in the photography field. Therefore, the teacher has a lot of options to choose from but the choice has to be related to their lesson and the chosen photo should include simplistic elements and a clear idea in order to provide a better understanding.

Researcher: How the photograph may use for delivering visual meaning?

Participant 3: Photography by itself is a significant knowledge delivery tool. Human sight is the most important source of knowledge without a doubt as it can send a message to the human brain faster than any other sense.

Researcher: How do you think those photographs as visual tool impact young learners?

Participant 3: As I mentioned before, photographs have a strong impact on viewers and I think it is even stronger on kids because of their nature of curiosity. They always want to know the details related to anything that interests them. At this age, as a younger learner, the educator can shape and build their knowledge by using appropriate ways of teaching. For example, I had an experience with my nephew, who is 4 years old, I would like to share it with you. As usual after dinner, I use my computer to explore and investigate photographs. I have found some social photographs that present the relationship between a father and his sons. At that time my nephew joined me and asked me about the photograph's content. I started to explain to him the nature of that relationship and the father's task in our life and how the sons should show respect and take care of their father

too. He liked exploring the photographs with me and he remained with me until I we got to undersea photos that include the fishes' life. He started asking me again about the undersea world and I did my best to answer him and explain how the fishes can be similar to humans in terms of eating, family, and friendship. The next day, I saw him spending all-day facing the pet fishes that we have in our living room and trying to figure out who is the daddy fish, who is the mommy fish and he started to feed them. What I am trying to say here is the kid changed his idea about fish. We had those pet fish for years and after he saw those photos that related to them, he looked at them more deeply while trying to stimulate that experience that he got from the family photo and now he takes care of them daily.

Researcher: How instructional photo may lead students to increase a visual meaning?

Participant 3: From my perspective, I see photos as basic language that humans should learn and understand as an international language. For example, if I want to learn a new language, I should start with the basics of that language and learn how to spell the letters. The same thing is true with photography. As we learn, photography means the writing on light. So, that means necessary to spend more time teaching how we can read photography in order to understand the visual meaning that it carries and have a photo that is understandable, carries meaning, and is perfect looking.

Researcher: How may instructional photo present content and make it meaningful to learners?

Participant 3: The instructional photo needs to have enough detail that relates to the subject of the lesson with an educational aspect. Also, the teacher should care about if

he/she can use his ability of teaching to match the photo content in order to have the instructional photo install the knowledge into the student's brains.

Researcher: In which method teacher should use instructional photo and how she/he present it in order to make the learner critique visuals meanings?

Participant 3: The instructional photo that is chosen should be colorful which includes hot colors for the main elements in order to engage the learners and represent the importance of those elements. So, that can be used as a hint to learn how the students should focus on the main subject of the photo to allow them to critique any visual meaning.

Researcher: What is your belief about using instructional photo that help students relate to their reality and visuals the meaning?

Participant 3: The uses of instructional photo are very helpful for learners. I prefer to let the students use the camera or the internet to bring in some photos that relate to the lesson as home work. This also informs the instructor on how the learner perceived the lesson from their perspective in order to increase the discussion about the photo content from more than one point of view. For that, I prefer a more traditional way of a writing assignment as homework.

Researcher: How you describe a successful photograph that may use for educational setting?

Participant 3: All the photos that have clear and direct meaning may be successful photos to use in an educational setting. For me, I prefer the photos that have emotional meaning because that has a powerful impact on the viewer's perspective. For that, the educator

should first determine what is the needed from the used photo in order to achieve the target.

Researcher: What are the important things should photograph include in order to make it instructional?

Participant 3: To make the photo instructional, it should not have any extra elements that may lead to attention deficit and confuse the learner as to what the main idea of the photo is. Therefore, the learner can understand the interaction of the main elements in an easy and fast way especially if we have some photo that affects the student's emotionally because it will stay with them for a longer time.

Researcher: Imagining that there is a teacher, who has no experience in the photography field, can you describe some characteristics that make a photograph an appropriate instructional?

Participant 3: I can judge a teacher who has no photography experience. This field added a lot of things for me. It changed my understanding on the things around me and it could change people's beliefs. I would like to say that some photographs may cause a war and others may end it. Therefore, the teacher may add his/her perspective to the used photo in order to achieve the goals of his/her lesson. Sometimes, it is the teacher's task to redesign the photo concept through his/her words or explanation.

Researcher: If you have a lot of photographs, which one you would chose in term of instructional? And Why?

Participant 3: I would select the photo that increases the learner's motivation to encourage them learn more about the subject in order to break the routine of the learning process and also increase the visual culture and use it as source of knowledge.

Researcher: Which type of photo would be useful for education purposes? Why?

Participant 3: I do believe most types of photographs are good and useful for educational purposes. The instructor can choose from his/her experience the appropriate type to use for his/her purpose and each type of class will match with specific type of photographs.

Researcher: Do you think the teacher experience of photography is needed? Why and why not?

Participant 3: No, I do not think so because there are some teachers who have their own way of teaching which is very interesting for their students. They can deliver the knowledge in an easy way but if the teacher has that experience in photography that will of course affect his/her way of teaching.

Researcher: How the photograph background of teacher may influence negatively or positively the pedagogical decisions?

Participant 3: Pedagogical decisions, for any educator, can be influenced. So, a person with standard educational experience may succeed or fail in decision making but a person with photography experience will add their experience to the pedagogical decisions as he/she has deep view about visual illustration and therefore, uses visual thinking to deliver and facilitate the wanted knowledge by applying the visual element and especially the photograph to close and represent reality.

The Photography Artist Interview

Participant 4

Researcher: Tell who you are and about your experience in the photography field? (Name is an option.)

Participant 4: I am Journalist photographer in Arab Times from 1986 until 1989. I covered the Gulf War in 1990. I had worked as a photographer reporter for Agence France-Press (AFP) in 1990. I was a photography manager for Kuwait Times newspaper from 1990 until 2000. Currently I am a photographer reporter for European press photo agency (EPA) since 2000. I am also the photography manager for Aljareda Newspaper. Since it was established in 2008. I earned a lot of local and international awards in journalism and sport photographs including award in excellence press sponsored by the Kuwaiti prime minister for three consecutive years and documentation international award organized by UNESCO two consecutive years.

Researcher: Tell me what you think about the photograph as a way of delivering knowledge?

Participant 4: My personal opinion is the opinion of a lot of people. I do not think there is a disagreement about the importance of the photo as a way to deliver knowledge because God created the vision for us as one tool of the senses. So, without that vision we are not able to expand the circle of knowledge.

Researcher2: Describe to me what a successful photo is and how it may apply in an educational setting?

Participant 4: The successful photo is a photo that can support the academic lesson in a practical way. Sometimes students are not able to practice the lesson in reality due to several factors, including the space, time, mobility conditions, or that event or thing is not available to watch anymore. So, the documented photo is the most successful way to install theory, lesson or explanation because of photo can close the students to reality.

Researcher: What are the elements should photograph include in order to become instructional photo?

Participant 4: The important element that the Instructional photo should include that the element that gives you the impression to let the students reflect the truth in their eyes and minds. It is the element that receives and confirms that content actually exists in the photo. Which means provide the instructional photo in way to be a photo to go with the story.

Researcher: How do you think the instructor should select instructional photo that support his/her lesson?

Participant 4: The Smart instructor who is able to engage the students' attention and their curiosity and passion in order to let them stay focused with lesson material even with choosing a photo that is not related to the wanted subject. Therefore, using the photo as an introduction by itself can stimulate their senses visually in order to let them start the lesson content. For example, the instructor may bring a photo of a soccer player in special movement of sports to get the students` admire just to grab the attention of students then, the instructor can make the link or the correlation to his/her lesson.

Researcher: How can you advice a instructors to have a best choice of photographs that use as instructional tools aims to help teacher provide better understanding?

Participant 4: The instructor sometimes uses a related photo to the subject to confirm an experiment, a novel or story, or experience in order to increase the student engagement and let them stay in track with the subject. In the other hands, the instructor may use an unrelated photo in order to increase the students` curiosity and in this way the students will begin to ask questions to know what is the link between the lesson and the display photo. Thus, the teacher achieves the requirement which is leads them to investigate the link or the relationship that is beyond the photo content more deeply in the lesson material.

Researcher: How the photograph may use for delivering visual meaning?

Participant 4: The use of a photograph makes viewers imagine a movie or a scenario that actually happened, without watching it. The used photo made the viewers provoke all senses and let them imagine what happened before or what happened after it is taken which expand the wanted knowledge.

Researcher: How do you think those photographs as visual tool impact young learners?

Participant 4: For the young learner, their passion to learn and discover more because of the lack of life experience and due to their limited abilities to imagine and analyze things. So, the smart teacher who brings a photo is able to speak to their minds and their imagination, taking into account the individual differences between each other. For example, when the teacher would explain a lesson about sports, he/she must display a

photo that is close to the sport activity that they love to do. So, it does not make sense if the instructor shows the student a photo of a squash player if the young learners do not have any idea about this game.

Researcher: How instructional photo may lead students to increase a visual meaning?

Participant 4: Of course, the instructional photo contributes to increase the students` abilities to understanding the power of visual meanings. So, I think it is the teacher`s task to provide a powerful and helpful photo. The teacher has options of educational tools and various photos for that I think the smart teacher not only choses the appropriate photo but also who is able explain the elements inside the used photo and explain the meaning of those elements and how they represent a visual meaning.

Researcher: How may instructional photo present content and make it meaningful to learners?

Participant 4: Photo is a teaching tool. It has been used for education purposes since the advent of technology photo appears. It could have showed the truth in most cases, where in the past, teachers used drawing and the imagination, but after the invention of photography, the truth has become closer and actually tangible visually rather than imaginative. The instructor can provide the content of the lesson in a way that mimics the students` natural curiosity and to broaden their minds to understand what is going on around them in real way.

Researcher: In which method teacher should use instructional photo and how she/he present it in order to make the learner critique visuals meanings?

Participant 4: There are teachers who do not realize how to critique visual meanings as it should and those methods came in the advanced level of photography or education. I think showing a perfect instructional photo may become hard for a young learner to critique it, so I think displaying a kind of photo that close to the lesson content may help the learner to discover the difference and also may expand their knowledge by allowing them think how that photo may match or may not match with the wanted knowledge that they are learning.

Researcher: What is your belief about using instructional photo that help students relate to their reality and visuals the meaning?

Participant 4: I think the instructional photo should help students relate to their reality and visuals the meaning and that may happen when we have an appropriate instructional photo. Where the professional photographer shows a photo of reality from his/her lens and own perspective and shares or uses it for an educational purpose to surprise the learners and teach them how they may look at things in a different way and to teach them how the things around them may carry a meaning. So, the instructional photo task is to represent those things around the learner visually and to increase the visual sense for students.

Researcher: How you describe a successful photograph that may use for educational setting?

Participant 4: The successful instructional photo is the same photo that is successful in all areas, whether educational, journalistic, or documentation. There is no difference between them in terms of carrying a message or meaning but the only difference is the

method or the type of photography. So, the successful photo is the photo that is able to deliver the required and wanted message: honestly and clearly.

Researcher: What are the important things should photograph include in order to make it instructional?

Participant 4: An instructional photo must contain all of the aspects of a successful photo which are story, meaning, educational object and concept in order to present a clear and explicit message. In addition, the effects of lighting, the color and the degree of color to represent the content of the lesson in real way.

Researcher: Imagining that there is a teacher, who has no experience in the photography field, can you describe some characteristics that make a photograph an appropriate instructional?

Participant 4: I think the teacher needs to care more about the photo that is able to transfer the knowledge in a simple and easy method that makes the students more interested in the photo content and lesson content and willing to know more. Even if they go more far from the lesson because the photo encourages them to work more on discovery skill, which is opening their mind and letting them tie the things around them and recall their previous knowledge. So, I can say the most important characteristic of the photo is the photo that has multiple meanings which allow the learner to understand it in a different way depending on each student`s point of view and it could lead to discussion.

Researcher: If you have a lot of photographs, which one you would chose in term of instructional? And Why?

Participant 4: As I mentioned previously, I will choose a photo that includes story, meaning, educational concept in order to present a clear lesson and the one that helps the teacher to facilitate the hard content that needs more explanation or more details because it can close the reality and save the teacher effort.

Researcher: Which type of photo would be useful for education purposes? Why?

Participant 4: In the educational field, the instructor must use local photos, preferably journalist photos, because of the larger significance that is carry, able to infer the content, deliver the wanted idea for learners, and it is closer to the realities which facilitates the understanding and comprehension of the ideas.

Researcher: Do you think the teacher experience of photography is needed? Why and why not?

Participant 4: The teacher or instructor is distinguished from the students that she/he has an academy experience. With the passage of time, he/she is gaining a practical knowledge that led the experience of dealing with students and become able to deliver the knowledge in a simple, easy, and clear way. Therefore, it is very important for the teacher to educate him/herself in the biggest field of delivering knowledge that the whole world depends upon which is the photograph in order to help him/her in delivering the wanted experience, information, and knowledge. I think it is necessary for the teacher to know how to read the photo and analyze the included elements such as lighting, focus, depth of field, and angle of the taken photo which allows the teacher to understand the photographer`s message. After that the teacher`s task is to find out the appropriate way to use it for his/her students in terms of their ages and their backgrounds.

Researcher: How the photograph background of teacher may influence negatively or positively the pedagogical decisions?

Participant 4: Curriculum design is based on photos is necessity and there is no way to ignore it because the whole world is using photos since the inception of photography. Due to the increased use of social media it has become necessary to depend on the photo in all areas of life, including education, which is the important things of human progress and the diversity of human culture. So, I think those factors will influence the pedagogical decisions in favor of the use of the instructional photo. The best proof of this is the prevalence and the expansion and the increase of the using of applications that depend on photos such as Instagram and Facebook.

APPENDIX E

INSTITUTIONAL REVIEW BOARD APPROVAL

Institutional Review Board

DATE: December 23, 2015

TO: ALI BUHAMAD
FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [841594-1] VISUAL APPROACH AND DESIGN: THE APPROPRIATE
                          CHARACTERISTICS OF INSTRUCTIONAL PHOTOS AS A TOOL TO
                          SUPPORT ELEMENTARY SETTING IN KUWAIT
SUBMISSION TYPE: New Project

ACTION: APPROVAL/VERIFICATION OF EXEMPT STATUS
DECISION DATE: December 23, 2015

Thank you for your submission of New Project materials for this project. The University of Northern
Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB
regulations.

**Please be sure not to record the video in the interview call. You only have permission to record
the <u>audio</u> conversation.**

Best Wishes,

Maria Lahman, UNC IRB Co-Chair

We will retain a copy of this correspondence within our records for a duration of 4 years.

If you have any questions, please contact Sherry May at 970-351-1910 or Sherry.May@unco.edu. Please
include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of
Northern Colorado (UNCO) IRB's records.

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