The Role of Technological Creative Photography in Contemporary Education Frameworks in Developing the Knowledge, Skills, and Abilities of University Professors at the College of Basic Education in Kuwait

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Abstract

This study aimed to investigate the role of technological creative photography in contemporary education frameworks for developing the knowledge, skills, and abilities of university professors at the College of Basic Education in Kuwait. Using the survey analytical descriptive method, the study focused on (278) university professors selected randomly. A structured questionnaire was designed and validated to assess the role of technological creative photography in enhancing the educational framework. The findings revealed that technological creative photography significantly contributes to improving professors' teaching methods and student engagement. However, no statistically significant differences ($\alpha = 0.05$) were found attributable to gender regarding the utilization of technological creative photography in their teaching practices.

Keywords: Technological Creative Photography, Contemporary Education, Knowledge Development, Skills Training, University Professors, College of Basic Education, Kuwait

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Introduction

We live in a rapidly advancing world where technology plays a pivotal role in all aspects of life, including education. Technological advancements have paved the way for new methods of indirect education that rely on technological innovations such as computers, smart devices, satellites, and the internet. These tools have made learning accessible to a broader audience, offering various modes of education, including individualized and self-paced learning, evaluation, and content delivery.

Digital technology has revolutionized the role of teachers and the tools they use, providing vast repositories of information and enhancing the educational experience inside and outside the classroom. One prominent development is the emergence of educational technology as a discipline, contributing significantly to the production of educational media. These advancements enable teachers to present and explain their materials more effectively, fostering greater self-reliance among students in the learning process.

Technological tools such as multimedia, video, internet-based resources, and computer technologies have transformed teaching and learning across all educational stages. They help bridge gaps in equity and accessibility, foster collaboration between teachers and students, and cater to diverse learning patterns to enhance outcomes. Schools, universities, and educational institutions must embrace these tools to remain incubators of exploration and innovation. Teachers, in particular, need to adopt and integrate these technologies effectively to create authentic educational experiences.

Among these innovations, **technological creative photography** has emerged as a significant medium for contemporary education. It has been used to design digital lessons and create visually engaging materials, enhancing the learning process for both educators and students. This method fosters creativity and visual literacy, providing a platform for developing competencies such as critical thinking and problem-solving.

The importance of integrating technological creative photography in education is underscored by the increasing reliance on visual content.

Students today are adept at using digital devices for capturing and sharing images and videos, making this an opportune moment to utilize these skills for educational purposes. By leveraging photography, educators can meet contemporary educational needs and improve learning experiences in innovative ways.

This study investigates the role of technological creative photography within contemporary education frameworks in developing the knowledge, skills, and abilities of university professors at the College of Basic Education in Kuwait. The research fills a significant gap in the literature by addressing a subject that has received limited attention in academic studies.

Theoretical Framework

Photography and Technological Creativity

Photography serves as a sophisticated educational tool that contributes to learning by enhancing creativity and technological proficiency among educators and learners. Defined as "the art of drawing with light" (Tameti, 2014), photography captures moments and creates a visual narrative, making it an essential element in education today.

Digital photography, in particular, has simplified the process of capturing and utilizing images in education, allowing even novice users to produce high-quality content. Tools such as smartphone cameras have democratized access to photography, enabling educators to incorporate visual materials into their lessons effortlessly. These advancements have made photography an integral part of contemporary education, fostering a deeper understanding of concepts through visual representation.

Technological Innovation in Education

Technological innovation, defined as the application of new ideas or significant improvements in processes and methods (Amemer, 2018), is a cornerstone of modern education. It enables educators to enhance teaching methodologies, improve productivity, and reduce costs. The integration of technological creative photography aligns with this principle, offering innovative ways to engage students and develop their skills.

Importance and Advantages of Technological Creative Photography in Contemporary Education

Photography offers numerous advantages as an educational medium, including:

1. **Enhancing Visual Communication:** It bridges the gap between abstract concepts and concrete understanding by providing visual representations.
2. **Fostering Creativity:** Photography encourages both students and educators to think creatively, exploring new ways to present and understand information.
3. **Saving Resources:** Digital photography is cost-effective, requiring minimal equipment and resources compared to traditional teaching methods.
4. **Improving Engagement:** Visual content captures students' attention, making lessons more interactive and enjoyable.
5. **Facilitating Collaboration:** Students can work together on photography-based projects, fostering teamwork and communication skills.

As Flata (2001) notes, photography is unique in its accessibility, allowing educators and students alike to practice and excel in this art form with minimal prior experience. This accessibility makes photography an excellent tool for modern education, meeting the requirements of contemporary teaching and learning.

Key Elements of Digital Photography

To achieve a successful photograph drawn by light, three essential elements must be present (Tamayati, 2014):

1. **Light:** Light is the most critical component in photography. Without light, it is impossible to capture an image, as photography essentially involves drawing with light. Its absence results in complete darkness, making the process impossible.
2. **Camera:** The camera is the tool used to capture light and create a complete image. Similar to other art forms, mastering photography requires the proper tools and equipment. The camera acts as the medium through which the art of photography is realized.
3. **Goal:**Photography must have a defined purpose or subject to capture. Without a clear objective, photographing the void would produce

meaningless results. A meaningful goal ensures that the captured image conveys value and expression.

The Role of Technological Creative Photography in Developing Students' Knowledge, Skills, and Abilities

The **Fourth Industrial Revolution (4.0)** has significantly influenced various domains, including education, by introducing technological innovations that transform traditional practices. Education, as part of this transformation, requires adaptation to digital tools and updated curricula to meet the demands of contemporary learners. Technological creative photography has emerged as a vital component in this transition, particularly in technical and vocational education.

Transformative Impact of Industry 4.0 on Education

The Industrial Revolution 4.0 necessitates a paradigm shift in education, introducing advancements in visual studies, communication, and media production. This era prioritizes digital transformation, wherein analog methods are replaced by faster, more efficient, and accessible digital alternatives. Photography, as a component of visual education, reflects this transformation by enabling educators and students to produce, interpret, and communicate through digital imagery (Azahari, Ismail, & Susanto, 2019).

Enhancing Thinking Skills through Photography

Photography has been identified as a critical tool for developing thinking skills, an essential component of modern education. Cognitive abilities such as analysis, creativity, and problem-solving are nurtured through the use of educational photography. By integrating photography into learning processes, educators can encourage students to reflect, analyze, and interpret information, helping them face real-world challenges effectively (Costa & Kallick, 2008; Abu Nyan, 2018).

Technology-Based Learning Solutions

Photography in education extends beyond traditional uses, encompassing various technology-driven platforms such as:

- **Interactive Media:** Photo programs, multimedia exercises, and visual simulations.
- **Collaborative Tools:** Blogs, discussion boards, and virtual portfolios. These tools promote active learning, self-directed exploration, and

critical thinking, empowering students to manage their learning experiences (Day et al., 2000; Woods & Rosenberg, 2016).

Educational Photography as a Visual Methodology

Visual methodologies, such as reflexive imaging, foster meditative thinking, critical dialogue, and active engagement in the learning process. Tools like digital cameras and smartphones enable students to participate in creative, image-based educational activities, which provide insights into real-world scenarios while enhancing creativity (Rodrigues, 2017; Harper, 2002).

The Benefits of Photography in Education

1. **Cognitive Development:** Photography enhances observation, critical thinking, and creativity, enabling learners to process visual and symbolic representations effectively (Ammar & Al-Qabbani, 2011).
2. **Skill Development:** By using photography, students can acquire essential skills such as attention to detail, technical proficiency, and the ability to interpret complex visual data (Gaidan, 2018).
3. **Motivation and Engagement:** Photography engages students by making learning more interactive, enjoyable, and relatable. This fosters a deeper connection to the subject matter and encourages curiosity and exploration.
4. **Social Responsibility:** Photographic activities help develop students' awareness of societal issues by enabling them to visually communicate messages and explore perspectives through images (Rodrigues, 2017; Chivers, 2019).

Innovative Applications of Educational Photography

Photography has been successfully integrated into various educational settings:

- **Interactive Education:** The "Bring Your Own Device" (BYOD) concept encourages students to use their personal devices to capture images, record observations, and create digital portfolios (Nicole Flynn, 2017).
- **Skill-Based Learning:**Practical exercises such as analyzing photographs, capturing visual phenomena, or producing digital multimedia projects enhance technical and critical skills.

- **Research and Reflection:** Photography serves as a reflective tool in research, helping students connect theoretical knowledge with practical insights. Techniques such as photo-elicitation involve learners in interpreting visual content to stimulate critical thinking (Harper, 2002; Rose, 2007).
- **Creative Exploration:** Photographic education introduces students to advanced compositional techniques, visual storytelling, and the creative use of light and shadows. These experiences nurture artistic and cognitive abilities while supporting self-expression and innovation (Mitchell, 2008; Rodrigues, 2017).

Technological creative photography is a transformative tool in education that bridges traditional and modern learning paradigms. It not only supports the development of essential skills such as creativity, critical thinking, and technical proficiency but also enhances student engagement and participation. By integrating photography into contemporary education frameworks, institutions can equip learners with the competencies needed for the challenges of the modern world.

As a global trend, educational photography fosters innovation, communication, and collaboration, ensuring that students are well-prepared for their future roles in society. Moving forward, educational systems must continue to explore and implement creative methodologies to maximize the potential of photography in enhancing the learning experience.

Previous Studies:

Khasawneh et al. (2010) : This study aimed to identify differences in the process of technological integration among faculty members at the Hashemite University and Zarqa Community University. The researchers examined the stages of technological integration—readiness, experimentation, integration, and creativity—and the degree of constraints faced by faculty members in using technological tools. A sample of 98 faculty members was selected randomly, and a descriptive method was used to analyze the data. The findings highlighted the varying levels of technological integration among faculty members and the challenges they faced in adopting new technologies.

Al-Jawzi (2011) : Al-Jawzi's research focused on the role of technological innovation in enhancing the competitiveness of Arab countries. The study underscored the importance of technological innovation as a key factor in achieving long-term success and competitiveness. It emphasized the need for educational reforms, particularly in secondary and higher education, to foster innovation and scientific progress. The findings suggested that countries investing in technological innovation and education were more competitive globally.

Triacca (2017) : Although centered on primary education, Triacca's study is relevant for its exploration of teaching and learning through photography. The research investigated how photography could be used as an educational tool to simplify complex concepts and enhance learning outcomes. The findings revealed that integrating photography into lessons helped students analyze structures, engage with content more deeply, and develop critical thinking skills. These insights can be extrapolated to higher education contexts, highlighting the potential benefits for university professors.

Pesik (2010) : Pesik's study explored the improvement of students' performance and writing skills using photography, self-photography, and music. While the focus was on students, the methodology and outcomes are pertinent to educators seeking to enhance teaching practices. The study demonstrated that incorporating creative media could help students express their beliefs and ideas more effectively. For university professors, this underscores the value of using technological creative photography to enrich the learning environment.

Garcia Lazo (2012) : This study examined the impact of images on students living in a photo-saturated world and how critical thinking skills could be developed through photo capture. The findings indicated that creating images inspired students' thinking and engagement. For university professors, leveraging this insight could enhance pedagogical strategies by incorporating photography to stimulate critical analysis and creativity among students.

Lavalle & Briesmaster (2017) : Lavalle and Briesmaster investigated the use of image descriptions as a strategy to develop and enhance

communication skills among students learning English. The results showed that integrating image descriptions into classroom activities increased students' communication skills and overall participation. University professors can apply similar techniques to foster engagement and skill development in their own teaching practices.

Commentary on Previous Studies:

The reviewed studies collectively highlight the significant role of technological innovations, including creative photography, in enhancing educational outcomes. They demonstrate that integrating technology into teaching practices can lead to improved engagement, critical thinking, and skill development among learners. Although some studies focus on students, the insights are valuable for university professors aiming to enhance their teaching methods within contemporary education frameworks.

The current study distinguishes itself by specifically focusing on university professors at the College of Basic Education in Kuwait. It seeks to fill a gap in literature by investigating how technological creative photography can develop professors' knowledge, skills, and abilities, thereby improving educational practices and outcomes at the higher education level.

Problem Statement and Research Questions

In contemporary education, the integration of technological tools is essential for enhancing teaching and learning processes. University professors play a crucial role in this integration, as they are responsible for adopting innovative methods to improve educational outcomes. Despite the recognized benefits of technology in education, there is a scarcity of research focusing on the role of technological creative photography in developing university professors' competencies.

Therefore, this study aims to investigate the role of technological creative photography within contemporary education frameworks in developing the knowledge, skills, and abilities of university professors at the College of Basic Education in Kuwait.

Main Research Question:

- What is the role of technological creative photography within contemporary education frameworks in developing the knowledge,

skills, and abilities of university professors at the College of Basic Education in Kuwait?

Sub-Question:

1. Are there statistically significant differences at the significance level ($\alpha \leq 0.05$) in the role of technological creative photography based on the variable of gender among university professors?

Study Objectives

1.To explore the role of technological creative photography within contemporary education frameworks in developing the knowledge, skills, and abilities of university professors at the College of Basic Education.

2.To identify any statistically significant differences in the role of technological creative photography based on gender among university professors.

Importance of the Study

1. **Academic Contribution:** The study contributes to academic literature by examining a relatively unexplored area—the impact of technological creative photography on university professors within contemporary education frameworks.
2. **Practical Implications:** The findings may provide valuable insights for educational policymakers and administrators in developing professional development programs that incorporate technological creative photography.
3. **Enhanced Teaching Practices:** By understanding the role of technological creative photography, university professors can enhance their teaching methods, leading to improved student engagement and learning outcomes.
4. **Future Research:** The study may pave the way for further research on integrating technological innovations in higher education to develop faculty competencies.

Study Terms

- **Technological Creative Photography:** Procedurally defined as a contemporary educational requirement that leverages digital imaging tools (such as mobile cameras and smart devices) to innovate, develop, or improve teaching practices. It involves identifying

technological needs in light of desired educational objectives and guiding professors towards acquiring modern knowledge, skills, and capabilities through the use of creative photography.

Study Limits

1. **Objective Limits:** The study focuses on revealing the role of technological creative photography within contemporary education frameworks in developing university professors' knowledge, skills, and abilities at the College of Basic Education in Kuwait.
2. **Human Limits:** The study is limited to university professors at the College of Basic Education under the Public Authority for Applied Education and Training in Kuwait.
3. **Temporal Limits:** The study was conducted during the second semester of the 2020/2021 academic year.

Methodology and Procedures

Study Methodology

The study adopts a descriptive analytical approach, which is suitable for presenting the phenomenon as it exists and analyzing it to draw meaningful conclusions relevant to the research objectives and variables.

Study Population

The study population comprises all 68 university professors at the College of Basic Education under the Public Authority for Applied Education and Training in Kuwait for the academic year 2020/2021.

Study Sample

The research sample consisted of **27 faculty members** from the College of Basic Education, including **13 males** and **14 females**, randomly selected during the second academic year 2020/2021.

Table 1: Distribution of Study Sample by Gender

Gender	Frequency	Percentage (%)
Male	13	48.1
Female	14	51.9
Total	**27**	**100.0**

Study Tool

To achieve the objectives of the study, the researcher designed a questionnaire consisting of **26 items**, informed by theoretical literature

and previous studies, despite the limited availability of directly related research. The questionnaire was verified for both validity and reliability.

Validity of the Study Tool

The validity of the questionnaire was established through **face validity** by presenting it to a panel of experts in curriculum and educational technology. The panel assessed the clarity, appropriateness, and relevance of the items. Their feedback was incorporated to refine the final version of the questionnaire.

Reliability of the Study Tool

Reliability was ensured using two methods:

1. **Test-Retest Method:** The questionnaire was administered twice to a group outside the study sample (40 participants) with a two-week interval. The Pearson correlation coefficient between the two administrations was calculated.
2. **Cronbach's Alpha:** Internal consistency reliability was measured using Cronbach's Alpha, which yielded a coefficient of **0.88**, indicating high reliability for the study tool.

Implementation Procedures

The study was conducted using the following steps:

1. **Theoretical Framework Development:** The researcher reviewed theoretical literature to identify key variables, including creative and technological photography.
2. **Survey of Previous Studies:** A review of relevant Arab and international studies was conducted, identifying gaps in existing research related to the combined variables.
3. **Development and Validation of Tools:** The study tool was prepared and validated for accuracy and relevance by a committee of experts.
4. **Sample Selection and Data Collection:** The validated questionnaire was distributed to the selected study sample.
5. **Data Analysis:** Responses were processed using statistical methods to answer the study's research questions.
6. **Interpretation of Results:** Results were analyzed in light of the theoretical framework and previous studies, leading to conclusions and recommendations.

Statistical Treatment

To analyze the data, the researcher used the **SPSS** software and employed the following statistical techniques:

- Arithmetic means and standard deviations for descriptive analysis.
- Internal consistency (Cronbach's Alpha) for reliability.
- Analysis of variance (ANOVA) for testing differences among variables.
- Scheffé's post hoc tests for dimensional comparisons of variables.

Results and Discussion

Question 1: What is the level of the role of technological creative photography in contemporary education for training students' knowledge, skills, and abilities?

The arithmetic means and standard deviations were calculated for the responses regarding the role of technological creative photography in contemporary education.

Table 2: Arithmetic Means and Standard Deviations

Rank	No.	Item	Mean	Std. Dev.	Level
1	1	Technological creative photography contributes to continuous improvement of intellectual abilities.	4.02	0.901	High
2	2	Provides learners with real-life experiences to improve learning performance.	4.02	0.891	High
3	3	Provides sensory perception for learners.	4.00	0.927	High
4	11	Encourages competition and knowledge among students for qualified labor market outcomes.	3.97	0.903	High
25	25	Introduced through the use of new processes to satisfy learning goals.	3.84	0.913	High
25	26	Helps connect university learners with external competitors.	3.84	1.046	High

Overall Mean Score: 3.98 (High)

Interpretation of Results

The findings reveal that technological creative photography plays a **significant role** in contemporary education. Key highlights include:

- Faculty members recognize the importance of creative photography in **enhancing intellectual abilities** and providing students with **tangible real-life experiences**.
- The tool also facilitates **sensory learning**, fosters **competition**, and encourages **critical and innovative thinking**.
- High overall scores (mean = 3.98) indicate a widespread understanding of the benefits of integrating technological creative photography in education.

These results align with previous studies (e.g., Triacca, 2017; Pesik, 2010) that emphasized the value of photography in fostering **critical thinking**, **creativity**, and **engagement** among students.

Factors Contributing to the Results

- Faculty awareness of modern educational tools.
- Accessibility of digital and mobile photography devices.
- The role of photography in promoting **self-learning**, **reflection**, and **collaboration**.

Conclusion

The study confirmed the effectiveness of **technological creative photography** in contemporary education, particularly in developing students' knowledge, skills, and abilities. The findings emphasize the need for educators to incorporate innovative tools into their teaching strategies and provide targeted training to maximize the benefits of creative photography.

Recommendations

1. Provide training programs for faculty members on using creative photography tools effectively.
2. Develop guidelines for integrating photography into various educational curricula.
3. Encourage further research into innovative educational technologies for higher education.

Question 2: Are there statistically significant differences at the significance level ($\alpha \leq 0.05$) between the mean scores of technological creative photography based on the variable of gender?

To address this question, arithmetic means and standard deviations were calculated for the level of technological creative photography in the framework of contemporary education based on the gender variable. An independent samples t-test was conducted to determine if statistically significant differences exist between male and female faculty members.

Table 3: Arithmetic Means, Standard Deviations, and t-test Results by Gender

Gender	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Male	13	3.95	0.586	0.695	25	0.488
Female	14	3.91	0.556			

Interpretation of Results:

- **Mean Scores:** Male faculty members had a mean score of 3.95, while female faculty members had a mean score of 3.91.
- **t-test Results:** The t-test value was 0.695 with a significance level (p-value) of 0.488.

Since the p-value (0.488) is greater than the significance level ($\alpha = 0.05$), we fail to reject the null hypothesis. This indicates that there are no statistically significant differences between male and female faculty members regarding the role of technological creative photography in contemporary education.

Discussion:

The absence of significant gender differences suggests that both male and female faculty members equally perceive and value the importance of technological creative photography in enhancing students' knowledge, skills, and abilities. This could be due to the universal appeal and accessibility of digital photography tools, such as smartphones and digital cameras, which are commonly used by educators regardless of gender. The findings align with previous studies (e.g., Al Azzam, 2017; Pesik, 2010) that found no significant gender-based differences in the adoption and effectiveness of technological tools in education.

Recommendations

Based on the findings of this study, the following recommendations are proposed:

1. **Provision of Digital Devices :**Universities should supply digital and smart devices to facilitate the integration of technological creative

photography into the learning process, making it more accessible for students.

2. **Faculty Development Programs:** Implement training workshops for faculty members to enhance their skills in using media and software for producing and editing images and videos artistically and effectively.
3. **Establishment of Imaging Laboratories:** Create specialized imaging laboratories equipped with modern technology for producing and editing images, audio, and integrating multimedia elements into educational content.
4. **Development of Educational Platforms:** Establish educational websites or platforms where students can share their photographic works, engage in discussions, receive feedback, and collaborate with peers, fostering a spirit of innovation and creativity.

Conclusion

This study underscores the significant role of technological creative photography in contemporary education frameworks at the College of Basic Education in Kuwait. The findings reveal that both male and female faculty members recognize the value of integrating creative photography into teaching practices to enhance students' knowledge, skills, and abilities. By adopting technological creative photography, educators can provide engaging, reflective, and innovative learning experiences that align with the needs of 21st-century learners.

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