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The Effectiveness of a Proposed Electronic Program to Develop the Teaching Performance Skills of Secondary School Teachers in Abha Governorate

Thabet Bin Saeed Al-Kahlan[1], Mohamad Ahmad Saleem Khasawneh[2]

Abstract

The primary aim of this study was to assess the impact of implementing an electronic program on the enhancement of teaching performance skills among secondary teachers in Abha Governorate. A study was conducted on a cohort of teachers who were affiliated with secondary schools located in Abha Governorate. The objective of the study was to evaluate the potential impact of the electronic program on teachers' teaching skills in many areas, including lesson planning, implementation, and evaluation. The investigation spanned a duration of one month. The research comprised a cohort of 20 students, with a balanced distribution of 10 individuals in each of the experimental and control groups. The study's results revealed a significant increase in post-test scores pertaining to the acquisition of teaching performance skills, namely in the areas of lesson planning, implementation, and evaluation, for the experimental group in comparison to the control group. There was no statistically significant disparity observed in the scores of the experimental group and the control group in terms of their teaching performance skills, specifically in the areas of lesson planning, implementation, and evaluation, both immediately after the intervention and during the subsequent follow-up assessment.

Keywords: proposed electronic program, teaching performance skills, Secondary School Students, Abha Governorate.

Introduction

The teacher plays a crucial role in the educational process, serving as a fundamental determinant of the success or failure of any educational system. This is true irrespective of the presence of modern infrastructure, up-to-date curricula, and advanced technical resources within educational institutions (Alsaleh, 2020). The attainment of their targeted objectives is contingent upon the presence of an adept and adequately equipped instructor. The secondary stage teacher assumes the role of an educator who is accountable for fostering the cognitive, practical, personal, and cultural proficiencies of pupils during this particular phase of their education (Sulaiman & Ismail, 2020). Hence, it is imperative to adequately train and enhance the professional and academic abilities of commercial sciences teachers, with a particular focus on improving their teaching performance and fostering their ability to engage in experimental practices. These objectives serve as fundamental goals that necessitate careful preparation and qualification within the educational context (Elsied, 2023).

Ensuring the academic and professional preparation of teachers is not only mandatory, but it is even more imperative for educators themselves. The inclusion of skill education in the curriculum enhances students' engagement with real-life issues and their commitment to resolving them, while also fostering the cultivation of scientific and critical thinking abilities (Khasawneh, 2021). Furthermore, it plays a significant role in fostering the cultivation of values and the establishment of interpersonal connections, encompassing

[1]King Khalid University, Faculty of Education, Department of Curricula and Teaching Methods. E-mail: talkhlan@kku.edu.sa
[2]Assistant Professor, Special Education Department, King Khalid University, Saudi Arabia. https://orcid.org/0000-0002-1390-3765, Email: mkhasawneh@kku.edu.sa.

collaboration as well as cultural and commercial interactions. Hence, the process of teacher preparation necessitates more than the mere provision of information, facts, and educational theories. Instead, it entails equipping the teacher with the necessary skills and attributes to become self-directed in their professional practice (Joyce et al., 2018). It is imperative for him to maintain alignment with the swift advancements in the field of education. This prompts educational institutions with an interest in teacher training to reassess teacher preparation programs and the underlying educational approaches, incorporating new ones while striving to enhance and advance old ones (Akcil & Bastas, 2020).

Numerous international organizations focused on the field of education, including the National Council of Accreditation for Teacher International and the International Society for Technology in Education (ISTE), have delineated a set of standards pertaining to educational technology for teachers (Hamzah et al., 2021). These standards are accompanied by indicators that serve as benchmarks for measuring the attainment of these standards. In order to develop proficiency in utilizing technology effectively within educational contexts, educators must acquire a comprehensive understanding of various aspects related to its integration. This includes familiarizing themselves with the Standards and Performance Indicators for All Teachers, gaining knowledge about the fundamental characteristics of technology, strategizing and creating optimal learning environments, implementing appropriate assessment and evaluation methods, and considering ethical, legal, and humanitarian concerns (Chen, 2021).

In the context of e-learning and teaching, educators must possess a diverse range of skills to effectively develop, produce, and utilize electronic educational software. These skills encompass the utilization of various Internet services, including but not limited to email, chat platforms, and program downloads (Al-Otaibi & Abdulrahman, 2023). Additionally, educators should be proficient in tasks such as copying and downloading CDs, conducting information searches, constructing educational webpages, and transferring programs across networks (Papay et al., 2020).

E-learning and its associated tools are widely recognized as significant innovations in the field of educational technology. They play a crucial role in professional development in the current era, particularly in remote settings facilitated by network connectivity. The impact of e-learning tools on professional development can be succinctly described as enhancing educational methods and resources within the classroom (Burgess et al., 2020). This includes leveraging computer-based learning, software applications, multimedia, and local computer networks to facilitate more effective teaching and learning experiences. Moreover, e-learning tools contribute to the creation of more efficient educational media for information preservation, retrieval, and analysis. This is particularly valuable in managing the vast amount of information available and facilitating its acquisition (Claro et al., 2018). Additionally, e-learning tools introduce novel systems for enhancing distance education through network-based platforms, such as e-learning management systems and software. The utilization of virtual courses and video conferencing enhances the efficacy of educational programs by diversifying teaching methodologies (Napal Fraile et al., 2018).

Given the aforementioned circumstances, it became imperative to depend on contemporary technology approaches aimed at enhancing the dissemination of information and broadening the scope of ideas. One of the most contemporary pedagogical approaches is the utilization of electronic software accessible through the Internet, enabling learners to access educational resources without constraints related to time or location (Portillo et al., 2020). Numerous studies have demonstrated the efficacy of electronic software in facilitating the educational process and enhancing learners' motivation to engage in communication, study information, and conduct investigations (Tohara, 2021). The design of educational software should adhere to educational, artistic, and technical standards in order to cater to the intended audience and accomplish educational goals that align with its scientific content. This should be done in a manner that improves the educational environment and fosters the growth of the learner's

knowledge and skills (Alruqi & Alharbi, 2022).

Given the significance of integrating technology into educational practices and cultivating effective teaching strategies to equip students with the ability to comprehend academic disciplines, it is imperative to prioritize the enhancement of electronic software in this domain while also mitigating barriers that impede its implementation. Consequently, the researcher exhibited a keen interest and motivation to examine the effects of a proposed electronic program on enhancing the teaching performance skills of secondary school teachers in Abha Governorate.

Research Questions

1. Do the results of the experimental and control groups on a teaching performance skills evaluation show statistically significant changes after the introduction of an electronic program?
2. Do the teaching performance skills of the experimental group exhibit significant differences before and after the implementation of the electronic program?
3. Is there a statistically significant change between post-test and follow-up test results when evaluating teaching performance skills?

Literature Review

The matter concerning the preparation of teachers for the teaching profession holds significant significance, particularly in the contemporary era. In the twenty-first century, the role of educators has expanded beyond the mere transmission of information and knowledge (Muhammad, 2023). It now encompasses crucial and proficient responsibilities aimed at equipping future generations with the ability to learn, think critically, conduct research, and possess, master, and apply various skills (Ng et al., 2023).

The effectiveness of teaching is enhanced when there is reciprocal engagement between the instructor and the student, with the objective of attaining educational and pedagogical objectives and requirements (Wasserman & Migdal, 2019). The effectiveness of teaching is not contingent upon the extent of interaction between the teacher and the learner, but rather is associated with the characteristics of the course in terms of its level of complexity and the quality of educational methods in terms of their accessibility or lack thereof (Kim et al., 2019). The primary responsibility of the teacher within the classroom is to engage in the act of instruction. This implies that the responsibilities of a teacher extend beyond mere instruction, emphasizing that teaching is a primary obligation (Alt, 2018). To achieve professional success, teachers must have a proficient command of pedagogical techniques. Inheritance does not confer teaching skills, but rather, these skills can be acquired through training and qualification of teachers. It is important to acknowledge that genetic factors may play a role in determining a teacher's success or failure in mastering teaching skills (Darling-Hammond et al., 2020). However, it is necessary to first identify these skills before discussing their acquisition. A comprehensive understanding of the concept of teaching is necessary (Agustini et al., 2019).

Numerous Arab and international conferences have underscored the imperative of prioritizing the preparation and training of educators. These include the International Conference on Education, titled "The Role of Teachers and Educators and Their Functions," organized by the United Nations Educational and Cultural Organization in Geneva, as well as the Sixteenth Scientific Conference in 2002, themed "Teacher Formation". In light of recent developments, the primary objective of education in the 21st century is to equip individuals with the necessary competencies to effectively navigate the information age (Suparsa et al., 2021). This includes fostering their capacity to actively participate in development initiatives by leveraging their advanced and specialized contemporary skills and abilities, as well as cultivating a lifelong learning mindset (Elseidy, 2022).

The notion of e-learning involves the exploitation of electronic means to transmit and deliver information to learners, encompassing a broad range of applications. The term "utilization" in this context pertains to the fundamental implementation of electronic techniques to enhance the distribution of information and instruction inside traditional educational environments (Alsaleh, 2020). Furthermore, it involves the deliberate distribution of electronic and computer-based materials in order to create virtual classrooms using Internet technologies and interactive television, with the objective of optimizing educational achievements (Sulaiman & Ismail, 2020).

The term "e-learning" can be accurately described as the extension of the teaching and learning process beyond the confines of traditional classrooms. It involves the utilization of a diverse range of resources in an interactive distance learning environment, wherein computer technology plays a crucial role (Elsied, 2023). This redefines the roles of both educators and students. In the realm of education, e-learning serves to assist, select, and manage the teaching and learning process Khasawneh, 2021). It is important to note that e-learning does not replace the job of the teacher, but rather complements it by enhancing their responsibilities as a supervisor, guide, and organizer. This allows the teacher to effectively oversee the educational process and align it with the advancements of the contemporary period (Joyce et al., 2018).

One of the prevailing contemporary technologies in the field of e-learning encompasses educational software, which serves the purpose of presenting a collection of intangible educational resources that have been developed using computer systems (Akcil & Bastas, 2020). These resources are designed to impart certain skills or factual knowledge in accordance with established educational principles. Furthermore, it serves as a medium that facilitates and enhances the educational process through the provision of knowledge in an interactive fashion, utilizing diverse modalities such as text, audio, and visual components (Hamzah et al., 2021). These programs integrate many multimedia elements like as sound, graphics, drawings, and text, facilitating interactive engagement between the viewer and the program. According to Chen (2021), the term refers to a collection of educational resources that have been developed and coded using computer technology for the specific goal of facilitating scientific endeavors. The preparation of individuals is contingent upon Skinner's theory, which is predicated on the notion of reciprocal response and reinforcement between the learner and the instructor or technological device. According to Al-Otaibi and Abdulrahman (2023), educational programs are specifically developed using computer and Internet technology. These programs are structured in a sequential manner, allowing learners to go logically from one stage to the next, building upon previously acquired knowledge and ideas. Interactive learning refers to a form of instruction that necessitates the active participation of the learner in transitioning between different levels.

Electronic software offers numerous advantages, including enhanced motivation, improved communication, and increased student engagement, so fostering a more positive attitude towards the learning process. Additionally, it serves to improve the educational environment and foster the cognitive and skill-based aspects across multiple disciplines (Papay et al., 2020). Furthermore, the significance of electronic software in education lies in its ability to facilitate communication among students as well as between students and teachers. It also enables convenient access to information and educational resources, aligns with contemporary learning approaches that promote self-directed learning, and simplifies the process of generating educational content and activities (Burgess et al., 2020). It has been observed that courses The utilization of computer software facilitates an interactive and integrated approach, hence enhancing the convenience and diversity of evaluation and feedback methods. Furthermore, it is worth noting that the utilization of technology significantly facilitates the acquisition of information in a convenient and expeditious manner, while also considering the unique variations and disparities that exist among pupils (Claro et al., 2018).

Napal Fraile et al. (2018) conducted a study that demonstrated the relationship between different modes of learning and memory retention. Their findings indicate that individuals are able to recall approximately 68% of auditory information, and approximately 48% of information presented through both auditory and visual channels. However, when individuals engage in active learning by incorporating auditory, visual, and kinesthetic elements, the percentage of information retained increases to approximately 78%. Furthermore, the study suggests that the level of interaction with the learned material further enhances memory retention.

Numerous scholars, including Portillo et al. (2020), Tohara (2021), and Alruqi and Alharbi (2022), have underscored the significant role of electronic software in bolstering educational contexts. They have highlighted its ability to effectively represent educational goals and facilitate various tasks and activities, thereby streamlining the educational process. Consequently, the utilization of software has emerged as a prominent approach in this domain. The utilization of electronic teaching methods across different academic disciplines is widely recognized as a significant contemporary educational trend due to its capacity to enhance students' cognitive abilities and skill development. There exist numerous rationales for the utilization of educational software, including its capacity to enhance the enjoyment and engagement of the educational process. Furthermore, it enables educators to employ interactive programs through a computer-connected display screen, thereby facilitating instruction to a sizable cohort of students. Certain programs are distinguished by their utilization of many programming languages, affording users the opportunity to select the language that most aligns with their preferences. Additionally, these programs employ simulation techniques to facilitate the execution of scientific experiments that are otherwise challenging to undertake due to their inherent hazards or financial implications (Muhammad, 2023). According to Ng et al. (2023), software has a significant role in generating enthusiasm among students by facilitating access to educational content. These applications offer self-learning opportunities and contribute to the customization of the learning process. Tutoring services contribute to enhancing areas of academic weakness in students, thereby prioritizing the learner and placing them at the center of the educational process.

The inception of the field of electronic educational design is relatively young and is regarded as one of the disciplines within education that focuses on enhancing the educational process, devising instructional programs, and selecting the most suitable approach to attain educational objectives (Wasserman & Migdal, 2019). The skills related to educational software design encompass the identification of comprehensive educational specifications for the software and the learning experiences facilitated by it. This involves identifying appropriate sources and resources to ensure efficient and effective learning outcomes (Kim et al., 2019). Additionally, these skills involve the development of educational products that effectively support desired learning outcomes and facilitate changes in learner behavior. Furthermore, educational software design is a systematic approach that involves planning and developing optimal educational methods to successfully attain learning objectives. The objective is to meet certain criteria through devising, discerning, and assessing instructional approaches for all educational endeavors (Alt, 2018).

The foundation of software design should prioritize communicative ability and offer customized language support that caters to the specific requirements of pupils. Additionally, it offers genuine and substantial linguistic input, including a diverse range of learning methods (Darling-Hammond et al., 2020). The electronic software encompasses several forms of interaction, including those occurring between students and the teacher, between students themselves, and between students and the software. One notable characteristic of electronic software is the provision of error correcting mechanisms that are tailored to meet the requirements of pupils (Agustini et al., 2019). The electronic software should encompass a comprehensive range of pertinent skills, with each skill being utilized to reinforce and enhance the overall proficiency of the program. This approach will enable the software to foster self-learning capabilities and

instill self-assurance in users through well-defined training mechanisms (Suparsa et al., 2021).

In order to attain the advantages associated with educational software, it is imperative that the design and production process adhere to a predetermined set of educational and technological criteria and benchmarks. It is imperative for the software to incorporate accurate educational theories in its content delivery, as effective design fosters student learning, establishes incentives and motivation, and enhances the level of interaction between students and the academic materials they engage with (Elseidy, 2022). The evaluation of the program is based on the examination of the order and coherence of content presentation, as well as its appropriateness for the intended target audience. Conversely, there exists a range of factors to assess the readiness of the software, encompassing its alignment with the outlined scenario, its ability to captivate and engage users, its effective utilization of animation and video to fulfill its objectives, and its presentation of content in a coherent and conducive manner for achieving said objectives (Alsaleh, 2020). In addition to technical quality evaluation standards, educational software is also evaluated based on its external appearance and its ability to function correctly. This includes assessing the software's compatibility with operating requirements, its freedom from programming errors, the ease and flexibility of its use, and the quality of its screen design (Sulaiman & Ismail, 2020).

The primary objective of teaching is to facilitate the necessary modifications in students' behavior through the imparting of knowledge, skills, and attitudes. This necessitates the possession of effective teaching skills by the instructor (Elsied, 2023). Teaching skills encompass a collection of proficient instructional behaviors exhibited by educators during their educational endeavors, both within and beyond the confines of the classroom. These skills are employed with the aim of attaining predetermined objectives, as articulated by the teacher, through the utilization of motor or verbal responses (Khasawneh, 2021). These responses manifest elements of precision, swiftness in execution, and adaptability to the contextual nuances of the teaching environment. Furthermore, it can be characterized as the aptitude to execute a particular task or undertaking pertaining to the process of teaching, encompassing the stages of planning, execution, and assessment (Akcil & Bastas, 2020). This study can be examined to assess a collection of cognitive and social motor behaviors, commonly referred to as performances. Subsequently, it can be evaluated based on the criteria of precision in execution and efficiency in completing the tasks. The capacity to effectively adjust to evolving teaching circumstances can be enhanced by the utilization of the systematic observation approach, which can afterward be further refined through participation in training programs (Hamzah et al., 2021) .

The acquisition and utilization of teaching skills by educators are essential components in the establishment of a robust educational framework that effectively connects theoretical principles with practical implementation (Chen, 2021). There are three key abilities that are essential: planning, implementation, and evaluation. The next section provides a comprehensive overview of the aforementioned talents:

1. Planning skills: The planning of the lesson is an initial phase in the teaching process that precedes the subsequent stages of implementation and evaluation. These three processes collectively form the teaching system, which encompasses various sub-skills. The significance and stature of the educational process need that planning be grounded in well-defined scientific criteria and principles, a notion that is reinforced by the professional requirements set for teachers in the Kingdom of Saudi Arabia (Al-Otaibi & Abdulrahman, 2023). The foundation of a quality education is on effective planning, which is informed by a comprehensive understanding of the pupils involved. Who are the individuals in question? The current stage of their educational journey and the subsequent steps required. Based on the aforementioned information, it is imperative for teachers, during the phase of lesson planning, to possess the necessary skills in establishing meaningful objectives that align with the characteristics of their students (Papay et al., 2020). Additionally, teachers should be adept at connecting new material to prior knowledge. Consequently, a teacher's proficiency in setting lesson objectives, formulating them

effectively, and analyzing their content becomes a crucial prerequisite for achieving success in the field of teaching. During the initial phase of planning, it is imperative for the teacher to possess a multitude of pedagogical abilities (Burgess et al., 2020). These skills encompass the ability to clearly define and formulate lesson objectives, thoroughly analyze the subject matter, carefully select appropriate teaching strategies and approaches, establish educational activities, and determine suitable evaluation methods and instruments (Claro et al., 2018). To effectively plan his daily instructional sessions in consideration of these circumstances. This necessitates the teacher's contemplation regarding the rationale behind instructing X. What field of study should I pursue? What resources are utilized for academic study? What are effective strategies for studying? What accomplishments have I attained? How can one develop a comprehensive plan for addressing all aspects of the situation at hand? (Napal Fraile et al., 2018).

2. Lesson implementation skills: The implementation of a lesson constitutes the second phase of the teaching process. Its significance stems from the fact that it necessitates the teacher's execution of various intricate teaching procedures and skills. This is done with the aim of offering students specific educational encounters, encompassing knowledge, skills, attitudes, values, and behavioral patterns (Portillo et al., 2020). The ultimate goal is to ascertain that learning has occurred by the conclusion of the lesson. Behavior can be altered in accordance with the intended objective and desired outcome. During this phase, the teacher aims to achieve the objectives outlined in the initial stage (Tohara, 2021). The proceedings commence when the teacher enters the classroom and announces the commencement of the lesson. It is important for the teacher to allocate a suitable portion of time for the evaluation phase, rather than solely focusing on implementation (Alruqi & Alharbi, 2022).

3. Lesson evaluation skills: The evaluation stage holds paramount significance within the teaching system. This is due to the necessity of making judgments and doing activities in order to enhance the functionality of this system. In the event that evaluation processes lack a sufficient level of precision, mastery, and impartiality, the outcomes derived from such processes may be deceptive and erroneous (Muhammad, 2023). Consequently, this can lead to the adoption of erroneous judgments and actions that have detrimental effects on the educational system. Undoubtedly, one of the most crucial aspects of the product evaluation process is Please come. In contemporary education, the acquisition of knowledge has evolved into an ongoing and uninterrupted endeavor (Ng et al., 2023). The phenomenon takes place prior to the commencement of instruction, throughout the instructional process, and subsequent to its conclusion. During each of these stages, the assessment fulfills various duties and plays significant roles (Wasserman & Migdal, 2019). The primary objective of the teacher in conducting assessments is to uphold the integrity of the procedures and activities that were carried out during the implementation phase. Furthermore, it is essential to evaluate the degree to which their effectiveness in attaining the objectives derived from the initial planning phase (Kim et al., 2019). Hence, it is observed that the procedures introduced by the instructor during the assessment phase should be interconnected with the objectives established in the planning phase, and immediately correlated with the instructional methods employed in the implementation phase. Therefore, the evaluation process is transformed into an interconnected system. The process of integrating various stages in order to attain specific objectives (Alt, 2018).

Previous Studies

Alsaleh (2020) the present study aimed to assess the efficacy of a training program based on the ADDIE instructional design paradigm in improving teachers' perceived competence in addressing educational challenges. The suggested ADDIE training program aims to assist educators in identifying educational challenges and implementing systematic approaches to address them. In order to assess the efficacy of the suggested training program, a study methodology known as action research was utilized, employing a quasi-experimental design. A cohort consisting of 77 in-service teachers was divided into four distinct groups, each of which participated

in a brief training program centered around the ADDIE paradigm. The collection of data was conducted using a pre and post-self-assessment questionnaire. This questionnaire was designed to encompass five sections that focused on the primary ADDIE skills, namely analysis, design, development, implementation, and evaluation. Additionally, open-ended questionnaires were utilized to gain insights into the expectations and attitudes of teachers towards the training program. The results suggest that there was a considerable increase in the scores of the post-self-assessment questionnaire compared to the scores of the pre-self-assessment questionnaire. The findings of this study indicate that the implementation of the ADDIE training program yielded significant improvements in teachers' capacity to address educational challenges, as perceived by the instructors themselves.

Sulaiman and Ismail (2020) discovered a correlation between the proficiency levels of teachers and the acquisition of 21st-century abilities. Furthermore, this study examines the impact of individual dimensions of teacher competence on the variables that contribute to teachers' efficacy in the context of twenty-first-century instruction. The study included a total of 242 secondary school teachers who were part of the TS25 Cohort 1 North Zone in Peninsular Malaysia. Furthermore, the research encompassed quantitative methodologies that involved the implementation of planned random sampling techniques. The study used two instruments: 21st-century skills derived from the 21st Century Knowledge and Skills in Teacher Educator framework developed by Partnership For 21st Century Skills (2010), and teacher competence factors based on the Malaysian Teacher Standards established by the Ministry of Education Malaysia (2009). Based on the analysis conducted in the study, a robust and positive association has been observed between the professional competence of teachers and the acquisition of 21st-century abilities. Based on empirical findings, it has been observed that the development of 21st-century skills is subject to notable influence from various factors, including an individual's personality traits, pedagogical approaches, professional growth, use of information and communication technology (ICT), as well as the overall administration and advancement of educational institutions. The findings also indicate that the various aspects of teacher competence can effectively facilitate teachers in advancing their professional growth in alignment with the principles of PAK-21, which encompasses 21st-century learning concepts. At the core of educators' endeavors to enhance teaching standards by current educational trends lies the cultivation of 21st-century abilities.

Mahmoud et al. (2022) the primary objective of the present study was to assess the efficacy of a proposed electronic program designed to enhance the teaching performance skills of a commercial science teacher. This program comprised three training units, with each unit consisting of multiple training sessions. Additionally, the study involved the development of a teaching performance skills assessment test. The study was conducted on a sample of secondary school teachers in Gharbia Governorate, specifically focusing on those employed in commercial schools. The sample consisted of both male and female teachers, totaling 30 individuals. The researcher employed a quasi-experimental design utilizing a single-group pretest-posttest measuring approach to assess the proficiency level of teachers within the research group. A teaching performance skills test was administered prior to implementing the program. Following the conclusion of the study, the measurement instruments, specifically Schoology, an e-learning management system, were utilized for the post-test assessment. Subsequently, the obtained data was subjected to processing, analysis, and interpretation. The findings of the study revealed a statistically significant disparity, with a significance level of $p< 0.05$, in the mean scores of the pre-and post-administration of the test assessing teaching performance skills within the research group. Specifically, the research group demonstrated a notable improvement in their scores following the post-application of the test.

Elsied (2023) presented a proposed electronic training program designed to enhance the teaching performance skills of science teachers in the intermediate level within the city of Hail. The program is intended to be implemented in a creative manner, with the goal of fostering professional growth and development among scientific educators. The study employed a questionnaire to assess the training needs of science teachers in the intermediate stage of public schools in the city of Hail during the academic year 1444 AH /

2023 AD. The questionnaire focused on four areas: planning skills for teaching creatively, implementation skills for teaching creatively, evaluation skills for teaching creatively, and creative teaching skills associated with fluency. The sample consisted of 20 teachers. The findings of the questionnaire indicated a significant training need for teaching performance skills in a creative manner across all four dimensions. These results underscore the importance of providing training in this area for the research sample. An electronically created training program was proposed with the aim of enhancing the teaching performance skills of science instructors in the intermediate stage in the city of Hail, employing a creative approach.

Methodology

The study adopted an experimental technique, which involves changing one or more variables (the independent variable) and then observing how these changes affect the dependent variable. To determine their impact on the study population, the researcher used both a conventional approach and an electronic program. For the study, the participants were split into two separate groups: the experimental group, which received training using the electronic program, and the control group, which received training using the traditional method.

Population and Sample

The study population consists of 1851 teachers residing in Abha Governorate, who were subsequently divided into 170 schools. A conscious choice was made to include a sample consisting of teachers from Abha Secondary School for Boys and Saqr Quraish Secondary School for Boys. The sample was selected using a random sampling method. The study utilized a sample of two classrooms, wherein one classroom was selected as the experimental group comprising 10 teachers, and the other classroom was allocated as the control group, also consisting of 10 teachers.

Research Instrument

The objectives of the study were accomplished by employing two distinct research instruments.

1. Teaching plan according to an electronic program: The conducted study pertained to a specific area of investigation, namely the assessment of teaching performance skills exhibited by secondary school educators. The present investigation was formulated with the intention of being carried out during the upcoming academic year of 2022/2023. The researcher developed a set of 28 initial behavioral objectives through a thoughtful analysis of the overarching goals and subject matter relevant to the themes being studied in the experiment. The framework consists of several components, specifically remembering, understanding, applying, analyzing, synthesizing, and evaluating. To ensure the accuracy and thoroughness of the information, it underwent evaluation by a panel consisting of professionals and experts. In light of the received feedback, the specific objectives were revised, while maintaining a total count of 28 objectives. The study groups have developed instructional plans that utilize an electronic program package for the experimental group, while applying a conventional manner for the control group. The panel of experts in the domain of instructional strategies was provided with multiple instances of exemplars. The objective of this action was to evaluate their appropriateness in respect to the subject matter and the predetermined behavioral objectives. In response to the critique provided by the experts, particular paragraphs underwent additional modifications, resulting in their ultimate version. There were a total of 30 educational plans implemented across both groups, evenly divided between the two approaches. Specifically, 15 plans utilized an electronic program, while the remaining 15 plans followed a conventional technique.
2. Designing teaching performance skills: The study was designed to evaluate the extent to which the instructional performance abilities of secondary school teachers were improved by the materials employed in the experiment. The domain of teaching performance abilities encompasses a range of

competencies, including the ability to effectively organize lessons, implement them in the classroom, and evaluate their outcomes. The components of the examination were carefully crafted to guarantee an accurate representation of its intended objective and compliance with the procedural guidelines for assessing teaching performance skills as delineated in contemporary scholarly literature. The items of the test were developed in accordance with the electronic program, notably utilizing the multiple-choice style. The process of item selection was predicated around the intended level of skill enhancement for educators at the secondary level. The set of questions comprises an initial statement accompanied by four alternative possibilities, necessitating educators to select the accurate one. The examination consists of a total of 30 items.

Instrument Validity and Reliability

There were two methods used to assess the instrument's reliability:

1. The assessment of the instrument's validity entails administering it to a panel comprising 10 arbitrators and determining a minimum acceptance rate criterion of 80%.
2. A cohort comprising ten educators undertook an assessment to examine the extent to which it exhibits discriminant validity. The statistical significance of the coefficients' discriminant validity was established using the observed (F) values, which were 3.50, 4.20, and 5.10.

The Cronbach's alpha formula was utilized to compute the internal consistency of the instrument. The instrument demonstrated a noteworthy level of reliability in its whole, as evidenced by a coefficient of (0.874). Furthermore, it is worth noting that the dependability coefficients for each of the three characteristics exhibit a range of variances, spanning from 0.805 to 0.886.

Data Analysis

The mean test results and standard deviations for the pre-test and post-test were computed following the completion of the data collection process. The effect size, which provides a measure of how much the electronic program helps the development of teaching performance skills, was calculated using the Eta square. The statistical methods of Wilcoxon's test and Z-value were applied to further explain the discrepancies between two comparable samples.

Results and Discussion

Table 1 demonstrates that previous to the implementation of the electronic program, the teaching performance skills of the experimental and control groups were comparable.

Table 1: Pre-Measurement.

Skills	Group	N	M/R	S/R	U	Z	P
Planning skills	Experimental	10	26.30	263.00	35.00	9.90	0.230
	Control	10	27.80	278.00			
Lesson implementation skills	Experimental	10	27.30	273.00	38.00	9.10	0.250
	Control	10	26.50	265.00			
Lesson evaluation skills	Experimental	10	25.30	253.00	30.00	10.30	0.190
	Control	10	25.50	255.00			
Total	Experimental	10	26.30	263.00	34.00	9.80	0.240
	Control	10	26.60	266.00			

Based on the data shown in Table 1, it can be observed that there was no statistically significant disparity observed between the two groups in terms of the mean scores pertaining to the teacher pre-test performance across various skills such as lesson planning, implementation, and evaluation.

In order to address the first question, which posited "Do the results of the experimental and control groups on a teaching performance skills evaluation show statistically significant changes after the introduction of an electronic program?". The aforementioned table illustrates the attained outcomes.

Table 2: Post-Measurement.

Skills	Group	N	M/R	S/R	U	Z	P
Planning skills	Experimental	10	29.10	291.00	332.00	0.800	0.000
	Control	10	23.00	230.00			
Lesson implementation skills	Experimental	10	28.50	285.00	350.00	0.690	0.000
	Control	10	20.00	200.00			
Lesson evaluation skills	Experimental	10	29.50	295.00	325.00	0.850	0.000
	Control	10	23.20	232.00			
Total	Experimental	10	29.00	290.00	331.00	0.810	0.000
	Control	10	22.10	221.00			

Table 2 presents the results of the post-testing done on the experimental group. In terms of assessments of teaching performance skills, such as lesson planning, implementation, and evaluation, the results show statistically significant changes in the mean scores of both the control and experimental groups. This implies that the teachers in the experimental group possess extraordinary teaching performance skills.

This result can be attributed to a number of things, but one of the most important is how well the electronic software motivates teachers and produces good results. Students' passion and desire to learn are facilitated by the electronic program's engaging and pleasant features. Additionally, the teachers use a variety of senses to speed up learning and facilitate comprehension. By actively participating in the remembering process, the student develops the ability to ask questions, supporting self-evaluation and enabling the comprehension of instructional material across diverse temporal contexts. Consequently, by including aural, visual, and kinesthetic inputs, this stimulates greater interest. This finding is in line with previous research by Alsaleh (2020), Sulaiman and Ismail (2020), Mahmoud et al. (2022), and Elsied (2023), which discovered that teachers in the experimental group who used the electronic program for learning various skills outperformed teachers in the control group who used the traditional method. This outcome provides evidence that employing an electronic program to build performance skills in teachers is suitable.

In order to respond to the second question, "Do the teaching performance skills of the experimental group exhibit significant differences before and after the implementation of the electronic program?" The findings are shown in the table below.

Table 3: Pre and Post-Measurement.

Skill	Pr/Po	N	M/R	S/R	Z	P
Planning skills	negative rank	2			22.50	0.000
	positive rank	8	1.00	2		
	ties	0	4.00	32.00		
	total	10				
Lesson implementation skills	negative rank	2			22.80	0.000
	positive rank	8	1.00	2		
	ties	0	4.00	32.00		
	total	10				
Lesson evaluation skills	negative rank	2			22.60	0.000
	positive rank	8	1.00	2		
	ties	0	4.00	32.00		
	total	10				
Total	negative rank	2			22.70	0.000
	positive rank	8	1.00	2		
	ties	0	4.00	32.00		
	total	10				

The results shown in Table 3 show a statistically significant difference between the mean scores of the

experimental groups for various aspects of teaching performance skills, including planning a lesson, implementation, and evaluation, as well as the overall post-measurement score. This suggests that teachers in the experimental group improved their teaching performance skills after the assessment.

The researcher asserts that the effectiveness of the electronic program in supporting the development of teaching performance can be related to the observed outcome. This is due to increased student interest and passion brought about by the usage of this program, which involves presenting material in a way that is consistent with the concepts to be learned and their relevance to the learner's life. As a result, students engaged in conversations, actively participated in scientific debates, and showed respect for their peers. The participants in this cooperative project showed respect for one another's thoughts, generating an environment that allowed for the creation of innovative scientific discoveries that went beyond the simple preservation of current knowledge. The investigative process is equally as important as the aforementioned follow-up, anticipating, inferring, designing, selecting an alternative thought, grouping and reasoning, using integrative thinking, and formative evaluation activities. In addition to the stage of explanation, which helps teachers develop their skills to a higher level. This finding is in line with previous research by Alsaleh (2020), Sulaiman and Ismail (2020), Mahmoud et al. (2022), and Elsied (2023), pertaining to the efficacy of the electronic program in enhancing diverse skill sets among teachers. This finding provides empirical evidence supporting the efficacy of electronic program in enhancing teaching performance skills.

The last question, "Is there a statistically significant change between post-test and follow-up test results when evaluating teaching performance skills?". In order to formulate an appropriate response, it is necessary to address the question. The results are displayed in the table that has been provided.

Table 4: Post and Follow-up.

Skill	Po/Foll	N	M/R	S/R	Z	P
Planning skills	negative rank	6				
	positive rank	0	3.60	21.60	9.320	0.200
	ties	4	0.00	0.00		
	total	10				
Lesson implementation skills	negative rank	6				
	positive rank	0	3.60	21.60	9.210	0.120
	ties	4	0.00	0.00		
	total	10				
Lesson evaluation skills	negative rank	6				
	positive rank	0	3.60	21.60	9.100	0.100
	ties	4	0.00	0.00		
	total	10				
Total	negative rank	6				
	positive rank	0	3.60	21.60	9.450	0.150
	ties	4	0.00	0.00		
	total	10				

Upon analyzing the data provided in Table 4, it becomes evident that there exist no statistically significant disparities in the average scores of the experimental group when comparing the post-test and follow-up assessments. The results of this study suggest that the effectiveness of the program remained stable during the period after the intervention, with no apparent indications of decline after its conclusion.

The observed results can be attributed to the effectiveness of electronic programs in enhancing instructors' performance-based teaching skills, including lesson preparation, implementation, and

evaluation. As a result, there was no apparent drop in the aforementioned values for the individuals in question. Electronic programs also made it easier to connect brand-new concepts with previously learned concepts, promoting lifelong learning. The idea is that by giving teachers opportunities to use and hone their practical and cognitive abilities in a variety of settings, as described in the electronic program, there will be a decreased risk of abrupt or early turnover.

Conclusion

This study provides empirical evidence that supports the assumption that the implementation of an electronic program among secondary school teachers in Abha Governorate has a beneficial effect on the enhancement of teaching performance abilities. Hence, among other factors, one of utmost significance is to the efficacy of electronic software in fostering teacher motivation and yielding favorable outcomes. The electronic program's engaging and pleasant characteristics increase students' passion and desire for learning. Furthermore, educators employ a diverse range of sensory modalities to enhance the pace of knowledge acquisition and promote understanding. Through active engagement in the process of remembering, students cultivate the capacity to pose inquiries, facilitating self-assessment and facilitating the understanding of educational content across various temporal frameworks. As a result, the incorporation of auditory, visual, and tactile stimuli elicits heightened levels of engagement.

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