THE IMPACT OF A TRAINING PROGRAM USING VIRTUAL CLASSROOM ON THE TEACHING COMPETENCIES AND THE DEVELOPMENT OF VIRTUAL CLASSROOM'S SKILLS AMONG FEMALE STUDENT-TEACHERS

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Abstract. In the era of high-tech advancement, the teachers are reflected as a tool to achieve development objectives through education and training. Education directly affects society's growth. Teachers' specialized capabilities' advancement represents a continuous constructive evolution process. This research aims at identifying the impact of a training program using virtual classrooms on the teaching competencies and the development of virtual classroom skills among female student-teachers in the practical education program. The research has used the semi-experimental approach to achieve this aim. The research sample consists of (40) female student-teachers from the practical education program in Basic Education Department at Qassim University. They are divided into two identical groups (experimental and control). The two groups are presented with the teaching competency notecard before and after applying the virtual classroom skills test. The results have found a dominance of the experimental group over the control group. It is evidenced by statistically significant differences between the averages of the experimental and control groups in the post-application of both the teaching competency observation card and the virtual classroom skills test. It is recommended to conduct training programs to develop teachers' virtual classroom skills before and during their service. It develops various capabilities in using educational platforms effectively and employing virtual classroom skills in the educational process.

Keywords: Training program; virtual classroom; teaching competencies; virtual teaching skills

I. INTRODUCTION

Supremacy and race among civilizations have been based on economic affluence and scientific progress with its technological advancement. The quality of education directly affects the development and progress of society. The teachers represent the keystone of the educational process. It is necessary to take care of them through appropriate qualifications and teaching competencies through specialized colleges' preparation programs. The development of the teacher's professional competence represents a continuous participatory and constructive development process. It aims at developing the professional culture in the educational institution. It raises the level of teachers' performance. It enhances the opportunities for scientific distinction and academic achievement for students. It advances the educational institution's productive efficiency by providing opportunities for distinguished and creative teachers for career progression and advancement and improving the educational learning process (Najla, 2011).

The teachers represent the most significant elements in the educational process. It is necessary to take care of their professional preparation and to develop their professional competencies. Regardless of nations' philosophies, goals, and social and economic systems, they have given most of their attention and care to the profession of education and teachers' advancement (Ala'gez, 2019). The teacher is considered the tool that nations use to achieve development goals through education and training. Therefore, both pre-service and in-service teachers' training programs reflect the competencies and training needs necessary for teachers to achieve each educational stage's goals. The educational process's success lies in its content and dimensions such as curricula, textbooks, educational aids, equipped buildings, and successful institute management due to their significant impacts on educational work (Al-Douwiri, 2017).

Due to the significance of developing the teachers' professional competence, the Education Evaluation Authority has issued a list of professional standards for teachers in Saudi Arabia in 2016. It aims at teachers' professional development and providing a professional accountability model (General Education Evaluation Authority, 2016). Many studies have emphasized the significance of developing the teachers' training competencies due to its implication in achieving the educational process's objectives (Ilanlou and Zand, 2011). It is emphasized to enhance the teachers' professional competencies through

continuous evaluation, improving students' performance (Kumar, 2013). Areas of competencies are revealed through research to achieve useful teaching assistance (Philip and Ramya, 2017).

It is recommended to reconsider the educational preparation and development programs for science teachers. It is essential to provide the graduate teachers with the necessary competencies, which help them teach science at the primary level (Al-Zahrani, 2017). It is required to focus on the competencies mandatory for preparing teachers for the curriculum's practical and applied aspects (Alman'a, 2017). So, it has been sought to identify the impact of an instructional strategy based on learning styles to provide female students with performance competencies (Abdul Rahim, 2019). It is highlighted to train them in lesson planning, lesson implementation, evaluation, teaching, cognitive, professional, social, technical, educational, and personal competencies. It is required to implement virtual classrooms to train them in communicating with their supervisors and colleagues to exchange experiences and knowledge (Rahon, 2020).

Virtual classrooms assist in advancing teaching and learning without being restricted by spatial and time limits. It gives freedom to choose educational materials. In the virtual classroom, many libraries, research, and encyclopedias are available on the internet. It provides opportunities for discussion, feedback, and evaluation, which are a significant source of information (Al-Omari and Ismail, 2019). Virtual classes represent a form of E-learning. These are like traditional classes in terms of meeting and interaction between the teacher and students or between students. The teaching and learning process exists through those classes using modern communication technologies. It enables the teacher to manage and implement the educational learning process without being restricted by time or spatial limits (Al-Omari and Ismail, 2019). Therefore, teachers need to acquire virtual classrooms to achieve the instructive process's goals using technology.

It is represented by tools such as the electronic whiteboard, direct speech with sound and image, written communication, the light pen's technology, and the direct participation of systems, programs, and applications between the teacher and students. The files are exchanged directly between them and the students, and a library of lessons is provided (Khalif, 2011). Studies have emphasized including pre-service and in-service teacher preparation programs to support acquiring virtual classroom skills through training and study. It acquires to achieve students' effective participation in academic activities in a virtual classroom (Barbour, 2012; Bigne and Badenes, 2018; Alsa'i, 2018). It is found that teachers are weak in using virtual classrooms despite the availability of facilities (Al-Rahili, 2019). It is clarified that the use of virtual classrooms in teaching the coaching methods courses to teachers has proved a significant impact in developing practical teaching skills (Abdul Rahim, 2019). It helps create a student-friendly interactive academic portal, which would meet all their needs (Chowdhury, 2020).

The world witnesses a danger in the Coronavirus (COVID-19) epidemic outbreak. It provides education to all students without gathering in institutes and exposing them to the risk of infection with the Coronavirus (COVID-19). Implementing practical education in Saudi Arabia universities' universities faces some challenges, limiting its impact on the student. A study has recommended the necessity of enriching the programs and decisions of the faculties of education in Saudi universities with variant activities. It stimulates the acquisition of participatory E-learning skills for students (Issa, 2015). Another study has confirmed the necessity of using educational electronic simulation programs to acquire some web tools for female students (Abu Hilal, 2017).

It is indicated by the basic competencies test for teachers prepared by the National Measurement and Evaluation Center that a large percentage of male and female teachers have not acquired these competencies which is due to the low level of education for students graduating from teacher education programs, incompetence to search for knowledge from its sources, lack of skills, ineffectiveness to think scientifically, and lack of dealing with information technologies (Al-Zahrani, 2017). Through her work as a supervisor of the female students in the Scientific Education Program, the researcher has noticed that many female students have used little of their teaching competencies, which they have studied practically. It impedes the achievement of some of the educational process objectives, as many of them do not find an integrated lesson planning development.

Besides, it includes goals related to skills and competencies, which the students must obtain. Nevertheless, they do not have the competency to design activities that advance these skills. In addition to their low employment of virtual classroom skills in education, they use traditional methods for evaluation, despite considering what the world is witnessing through the Corona epidemic outbreak, which imposes the educational process at all stages to practice distance education using virtual classrooms. Based on those mentioned above, the current research problem has been identified by teachers' low teaching competencies and the skills of employing virtual classes for effective teaching. Hence, the current research aims to identify the impact of a training program using virtual classes on the

teaching competencies and developing virtual classroom skills for female student-teachers in the practical education program in the Department of Basic Education at Qassim University.

The research's significance is represented by keeping pace with global and local trends in employing modern technologies in educational systems. It provides a solution to many of the problems that female students face in practical education programs in exchanging experiences, obtaining knowledge, and direct and indirect communication without being restricted by spatial and time limits. It allows them to benefit more from their supervisors and colleagues. It develops the virtual classroom skills of female students, which would benefit them later in their teaching profession. It provides a statement for future research in developing the field of practical education programs using virtual classrooms. This would contribute to the development of the learning and teaching outcomes of female students.

II. METHODS

The semi-experimental approach was used. It aimed to identify the independent variable's impact (a training program using virtual classrooms) on the two dependent variables (teaching competencies and virtual classroom skills). The research was applied to a population of female students subjected to the practical education program in the Department of Basic Education at Qassim University, science track for the academic year 1441-1442 AH. The experimental group was subjected to a training program using virtual classrooms to develop teaching competencies and virtual classroom skills. The control group was not subjected to the training program using virtual classrooms. Figure (1) shows the experimental design of the research.
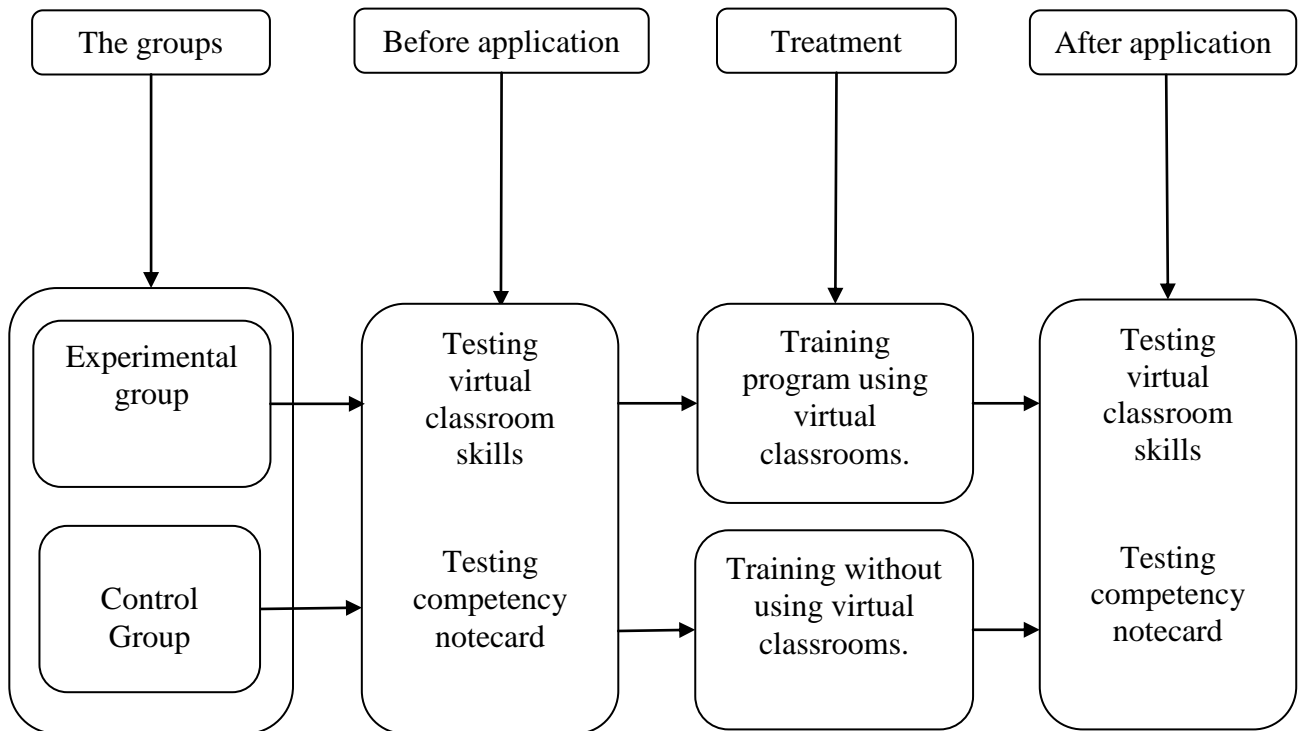

Figure 1. *The schematic diagram of the design of the research.*

The equivalence of the two groups (experimental and control) was ensured in teaching competencies before starting the experiment. The teaching competencies notecard was applied before starting the experiment on all the sample members. The arithmetic means, the standard deviations, value of (T), and significance level were calculated, shown in Table (1).

Table 1. *Results of pre-application of the teaching competency notecard to the experimental and control groups.*

Experimental group (20 students)		Control group (20 students)		(T value)	Significance level
Arithmetic means	Stand. Deviation	Arithmetic means	Stand. Deviation		

					0.96
58.35	5.39	57.7	5.48	0.38	No significance

It is clearly stated from Table (1) that there is no statistically significant difference at the level of (0.05) between the mean scores of the students of the experimental and control groups in the pre-application of the teaching competency observation card. This confirms that the two groups were equal in terms of teaching competencies before starting the experiment. Moreover, the two groups' equivalence (experimental and control) was confirmed in the virtual classroom skills before starting the experiment. The hypothetical classroom skills test was pre-applied to all sample members. Then the arithmetic mean, standard deviation, the value of (T), and its statistical significance were calculated. The results are shown in Table (2).

Table 2. *Results of pre-application of the test of virtual classroom skills on experimental and control groups.*

Experimental group (20 students)		Control group (20 students)		(T) value	Significance level
Arithmetic means	Stand. Deviation	Arithmetic means	Stand. Deviation		
					0.77
19.20	1.88	19.20	1.99	0.001	No significance

It is noticeable from Table (2) that there is no statistically significant difference at the level of (0.05) between the mean scores of the students of the experimental and control groups in the pre-application of the test of virtual classroom skills. It confirms the equivalence of the two groups in the virtual classroom skills before starting the experiment. The program is planned to develop the teaching competencies and virtual classroom skills in female students. The program includes topics related to both teaching competencies and virtual classroom skills. It consisted of (8) sessions divided into four days at the rate of (4) hours per day approximately. The training strategies comprise lecture, dialogue, open discussion, problem-solving, brainstorming, modeling, cooperative learning, and workshop. The training paraphernalia consists of the electronic training hall, the training program, PowerPoint Presentations, electronic worksheets, and computers. The program relies on the trainees' positivity and interaction during the sessions.

It is to ensure that female students have understood what was included in the program. Therefore, the program includes various activities to achieve this, such as setting standards and defining concepts. It comprises the oral interaction in discussion and dialogue to carry out various activities. It encompasses making evaluation questions, design lessons, prepare tests, propose visualization works, and implement strategies. It has included various evaluation methods. Initially, it makes a pre-evaluation by applying the teaching competency notecard of female student-teachers. It raises some questions during the implementation of the sessions. To find the application of some activities that determine the extent to which the trainee would benefit from each part presented in the session, formative or constructive evaluation was performed. Self-evaluation was performed at the end of each session. Finally, the post-evaluation was performed at the end of the program by applying the teaching competency notecard of female students. Table 3 shows the detailed presentation of the topics and activities contained in the session with a precise time specified for all.

Table (3): Schedule of training program sessions using virtual classes.

Day	Session	Session topic	Content	Time (min)
1st	1st	Starting and identifying the program	Welcoming the trainees and starting the program.	30
			Program general and procedural objectives.	10
			The program targeted class and the time needed.	10
			Program contents.	10
			Program training activities.	10
			Strategies followed in executing the program.	10
			Program evaluation methods.	10
			Program particular guidelines for the trainee.	10
			Application of virtual classroom pre-test.	35
Break				15
			Concept of virtual classroom	5
			Activity (1)	10
			Justifications for using the virtual classroom	10

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1st	2nd	Defining virtual classroom	Activity (2)	10
			Activity (3)	10
			Characteristics of teaching in virtual classrooms	10
			Activity (4)	10
			Interaction methods in the virtual classroom	10
			Activity (5)	10
Summary of the first day End of the first day				15
2nd	1st	Synchronous virtual classrooms	Virtual classroom contents.	10
			Activity (6).	15
			Teacher's responsibilities in virtual classrooms.	10
			Activity (7).	15
			Student's responsibilities in virtual classrooms.	10
			Activity (8).	15
			Kinds of virtual classrooms.	10
			Activity (9).	15
			Synchronous virtual classrooms.	10
			Activity (10).	15
Break				15
2nd	2nd	Asynchronous virtual classrooms	Asynchronous virtual classrooms.	10
			Activity (11).	15
			Asynchronous virtual classroom tools.	15
			Activity (12).	15
			Lesson design standards in Asynchronous virtual classrooms.	10
			Activity (13).	15
Summary of the 2nd day End of the 2nd day				15
3rd	1st	Teaching competencies	Teaching competencies.	10
			Activity (14).	15
			Teaching competencies for female teachers.	15
			Activity (15).	20
Break				15
3rd	2nd	Planning stage and teaching competencies	Concept of the planning stage.	5
			Planning stage and practicing the profession.	10
			Activity (16).	15
			Planning stage and mastery of the scientific material.	10
			Activity (17).	15
			The planning, design, and implementation stage of the scientific study.	10
			Activity (18).	15
			The planning stage and employing knowledge and information technology in teaching.	10
			Activity (19).	15
			The planning and learning enhancement stage.	10
			Activity (20).	20
Summary of the 3rd day End of the 3rd day				15
4th	1st	Lesson implementation phase and teaching competencies	The concept of lesson implementation.	10
			Lesson implementation phase and practicing the profession.	10
			Activity (21).	15
			Lesson implementation stage and mastery of the scientific material.	10
			Activity (22).	15
			The lesson implementation phase and the design and implementation of the scientific study.	10
			Activity (23).	15
			The stage of implementing the lesson and employing knowledge and information technology in teaching.	10
			Activity (24).	15
			Lesson implementation and learning enhancement phase.	10
			Activity (25).	15
Break				15

			The concept of evaluation stage.	5
4th	2nd	The lesson evaluation stage and teaching competencies	Activity (26).	15
			Evaluation phase and teaching competencies.	25
			Workshop.	20
			Application of virtual classroom pre-test skills.	35
Summary of the 4th day				15
Finalizing the program				

The program was controlled and produced in the final form. Presentations were prepared for each program's sessions. These were presented to (10) judges specialized in curricula and teaching methods to take their views on the program's content and the relevance of the topics included in the goal that it sought to achieve. According to their reviews, some activities and topics were modified. Finally, the program was completed to be applied to the sample essential for research. Afterward, the work papers for each session were prepared according to the activities included in the session. These were uploaded as electronic links within each session. So, all participants could download and work on these during the session.

III.   RESEARCH TOOLS

The research has used two tools to collect research data. These are teaching competency notecard and virtual classroom skills test. The teaching competency notecard is aimed at measuring the level of teaching competencies of female students. The observation card is prepared in its initial form by reviewing the previous studies, which have dealt with teaching competencies. It is designed according to the practical education program at the university. Where the first requirement is teaching competency, it is related to professional practice. It is the science teacher's knowledge and ability to perform in the teaching specialization and teaching methods. It includes the knowledge and skills associated with the major and the related effective teaching practices that include applying unique teaching methods. It displays the characteristics and values expected from the specialized teacher so that their practices and behaviors might represent the role expected from them.

The second requirement is related to the mastery of the scientific material. It expresses the teacher's entire understanding and awareness of the scientific content, fields, branches, theories, principles, laws, concepts, and scientific facts. It articulates the extent of the teacher's familiarity with the nature of its major, its historical development, and the scientific methods used to gain knowledge in it. The third requirement necessitates designing and implementing the practical study. It is executed by building a safe classroom environment supportive of learning, using strategies that suit students' needs, developing compelling learning experiences, engaging them in problem-solving, critical and creative thinking, and creating an atmosphere that raises their motivation to learn efficiently good time management skills. The fourth requirement imposes employing knowledge and information technology in teaching.

This is executed through employing internet services, telecommunications equipment and services, information technology equipment and services, media, radio, libraries, information services based on networks, and other information and communication activities related to the scientific subject. The fifth requirement enforces learning enhancement. It requires the teacher to identify how to facilitate students' empowerment with targeted concepts and practices. This is assumed to have a background on students' common, accurate perceptions of students' scientific material. This is emphasized to modify and develop these perceptions during teaching, evaluate students' learning, and provide constructive feedback. According to the following alternatives, the degree of mastery was determined for each sub-competency related to these competencies within the planning, implementation, and evaluation stages (excellent, very good, good, acceptable, not mastered).

After completing the notecard design in its initial form, it was presented to (10) referees specialized in curricula and teaching methods. Modifications were made to the notecard based on the opinions of the arbitrators. It has validated the card for use. Performance levels were selected for the students. If the student was given (4) marks, then she has performed proficiency excellently. If the student was given (3) marks, then she has performed proficiency very well. If a student is given (2) two grades, then she has performed well enough. If the student was given (1) mark, then she has sufficiently performed. If the student is given (zero) mark, then she is not proficient in proficiency.

The notecard's stability was calculated by the method of multiple observers on the performance of one student. Then the coefficient of agreement between their evaluations of performance was calculated. The researcher sought help from a colleague. She has trained her on using the notecard and

has defined him with its content. Then the researcher and her colleague have experimented with the tasks that were included in the card. The agreement coefficient was calculated for each student using the Cronbach Alpha Equation by observing ten students' performance. It was found that the value of the stability coefficient of the notecard is (0.89), which has indicated the ratio of high agreement between the two notes. It is a percentage that shows that card observation has an adequate level of consistency, which has made it applicable to the main sample of the research in its final form.

The virtual classroom skills test was aimed at measuring the level of virtual classroom skills of female students. The test was prepared in its initial form by reviewing the previous studies, which have dealt with virtual classroom skills. It consisted of questions about controlling the powers of the members in the virtual classroom, the ability to print in a virtual classroom, using interaction types in virtual classrooms (synchronous and asynchronous), the skill of recording the virtual classroom, using of virtual classroom tools, exchanging programs, presentations and files in the virtual classroom, communication skills of all kinds in the virtual class (audio, visual, and writing), conducting inspections in the virtual classroom, and conducting calendar operations in the virtual classroom. It was presented in its initial form to (10) referees specialized in curricula and teaching methods to confirm the test's validity.

Their opinions about the test vocabulary's scientific and linguistic validity and the test's suitability to the female students' level were considered, and modifications were made. Finally, the test became suitable for application to the survey sample to control it. It was applied to an exploratory sample (not from the research sample) of females from the science track. The number reached (20) female students. It was aimed at determining the time required to answer the test vocabulary. It took for the first and last student to complete the answer by monitoring the times, estimated at (38) minutes and (42) minutes, respectively. The average of the two times was calculated, which showed that the appropriate time to apply the test was (40) minutes. The ease and distinguishing coefficients for each of the test items were calculated. It was found that the values of the ease coefficients for the items of the hypothetical classroom skills test were ranged between (0.30-0.75). As the acceptable ease factors were ranged between (0.15 - 0.85), so it was suitable.

Moreover, it was found that the acceptable distinguishing coefficients for the items of the hypothetical classroom skills test were ranged between (0.40-0.80). As the paragraph was ranged between (0.20 to 0.39) for distinguishing factor, so it was acceptable to some extent. Therefore, the vocabulary of the hypothetical classroom skills test has an appropriate capability to distinguish. The stability coefficient of the hypothetical classroom skills test was calculated using the Cronbach Alpha Equation. It was found that the test reliability coefficient is (0.94), and it has indicated that the test has an acceptable degree of stability. Therefore, the hypothetical classroom skill test has become valid for the basic research sample in its final form.

IV. RESEARCH RESULTS AND DISCUSSIONS

The first question of the research is that "What is the impact of the training program using virtual classrooms on female students' teaching competencies in the practical education program in the Basic Education Department at Qassim University"? Arithmetic averages, standard deviations, and (T) values were calculated in the post-application of the teaching competency observation card. The results are presented in Table (4).

Table 4.*Results of post-application of the teaching competency notecard on experimental and control groups.*

Experimental group (20 students)		Control group (20 students)		(T value)	Significance level
Arithmetic means	Stand. Dev.	Arithmetic means	Stand. Dev.		
130.25	0.62	111.95	6.38	12.44	0.001 Statistical significance

It is found from Table (4) that the differences between the mean scores of the students of the experimental and control groups in the post-application of the teaching competency observation card are statistically significant at a level of significance (0.05). It favors the experimental group. Furthermore, the ETA box was used to identify the independent variable's impact (the training program using the virtual classrooms) on the dependent variable (teaching competencies). Table (5) shows the results of that.

Table 5. *The size of the training program's impact using virtual classrooms on female students' teaching competencies.*

(η^2) Value	Impact size
0.80	Large

It is found from Table (5) that the (η^2) value is (0.80), which is greater than (0.14). It indicates that the size of the independent variable's impact (the training program using virtual classrooms) on the dependent variable (the teaching competencies) is enormous. The second question of the research is that "What is the impact of the training program using virtual classrooms on developing virtual classroom skills of female students in the practical education program in the Basic Education Department at Qassim University?" Arithmetic averages, standard deviations, and (T) values in the post-application of the test of virtual classroom skills were calculated to answer the question. Table (6) illustrates the results.

Table 6. *Results of experimental and control groups in the post-application of the test of virtual classroom skills.*

Experimental group (20 students)		Control group (20 students)		(T value)	Significance level
Arithmetic means	Stand. Dev	Arithmetic means	Stand. Dev		
35.75	1.21	31.80	2.14	7.18	0.01 Statistical significance

It is mentioned in Table (6) that the differences between the mean scores of the students of the experimental and control groups in the post-application of the virtual classroom skills test are statistically significant at a level of significance (0.05). It favors the experimental group. Furthermore, the ETA box was used to identify the independent variable's impact (the training program using virtual classrooms) on the dependent variable (virtual classroom skills). Table (7) illustrates the results.

Table 7. *The size of the training program's impact using virtual classrooms on female students' virtual classroom skills.*

(η^2) Value	Impact size
0.58	Large

It is evidenced from Table (7) that the (η^2) value is (0.58). This value is greater than (0.14), which indicates that the size of the impact of the independent variable (the training program using virtual classrooms) on the dependent variable (virtual classroom skills) is enormous. The use of interactive training programs through educational platforms has contributed to developing virtual classrooms' professional competencies and skills. Therefore, it is necessary to implement such programs according to all new developments in education. These results are agreed with several previous studies that have presented the significance of developing teachers' professional competencies before and during service (Al-Zahrani, 2017; Rahon, 2020; Ilanlou and Zand, 2011; Kumar, 2013; Philip and Ramya, 2017).

This is executed using modern methods, programs, and strategies related to educational innovations, including virtual classrooms. This outcome is consistent with several studies (Alsa'i, 2018; Al-Rahili, 2019; Barbour, 2012; Bigne and Badenes, 2018; Chowdhury, 2020). It has raised educational outcomes and achieved educational objectives at all levels. Therefore, it is vital to develop these skills among teachers to use these in the educational process. It is especially considering that the world is witnessing the outbreak of the Corona epidemic nowadays. It has imposed students and teachers on practicing the educational process remotely due to the fear of infection with this virus while interacting in traditional classrooms.

V.   CONCLUSIONS

The results have shown the experimental group's dominance over the control group in teaching competencies and virtual classroom skills in the post-application of the teaching competency observation card and virtual classroom skills testing. It is believed that this result has occurred because applying the training program using virtual classrooms to develop teaching competencies and virtual classroom skills have provided attractive and stimulating advantages for the learning process. It has contributed to developing the virtual classroom skills by applying some practical activities in the virtual classrooms

during the program sessions. It has provided the students with a practical idea of applying and using these classrooms. Besides, it has helped develop the various competencies in teaching for female students through the application activities. These include the program planning, implementation, evaluation stages, analyzing the content of a lesson, developing different evaluation types, and identifying several skills that need to be developed. Moreover, it has motivated the students and teachers to participate in competition between them during the implementation of the activities that were included in the program. The urge to perform better than others makes them more active and interactive during the sessions. Furthermore, the program's strategy in the presentation method depends on asking questions and then interacting in answering, discussion, dialogue, and submitting the scientific material to make the student and teachers feel elated during the sessions, which are also evidenced through their commitment to attend and interact during the sessions and the implementation of activities.

It is recommended to conduct training programs to develop professional competencies through the practical application of some activities that contribute to making the teacher more experienced in practicing teaching competencies in the educational process. It is suggested to conduct training programs to develop teachers' virtual classroom skills before and during their services to develop their various capabilities in using educational platforms effectively and employ virtual classroom skills in the educational process. It is advised to establish realistic virtual educational platforms that resemble the experimental platform currently used for female students to train them to practice teaching through these platforms and activate virtual classrooms. It is required to train female students practically in the integration process. It would simulate the merging of technology and education included in applied curricula. It is essential to provide brochures and training courses for all teachers to familiarize them with the teaching competencies following contemporary education requirements.

VI.   ACKNOWLEDGMENTS

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