A Connectivist Approach to enhance EFL Primary Stage Teachers' Performance

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ABSTRACT

This study aimed to examine the effect of using a program based on connectivism theory on EFL primary stage teachers' professional performance. A one group pre/post test design was adopted. A group of EFL primary stage teachers (n-25) participated in the study. Instruments of this study were; a pre / post test adminis to target teachers. As well as a rubric was designed to analyse the teachers' performance. Participants received a six – weeks training on connectivism program for about 48 hours, using Google classroom. Results were statistically analyzed both quantitatively and qualitatively. Results showed the positive effect of using the program based on connectivism theory on EFL primary stage teachers' professional performance

Introduction

The 21st century witnessed the emergence of technology in education, which elicits citizens to meet challenging competencies required for lifelong learning. Google applications and connectivist activities are examples of these abilities required for EFL primary stage teachers' professional development as a means of education and social change. However, most of EFL teachers have a great problem concerning developing their competencies due to the dominant examination – oriented educational system and the nature of the curriculum that gives limited attention to developing performance.

EFL primary stage teachers are not given a chance to develop their awareness, concepts and practices of performance problems. Thus the present study aimed to investigate the effect of using a program based on connectivisim using Google classroom to develop their performance and accordingly their pupils' language. Moreover, Siemens (2017) presented connectivism as a model of learning that provides insight into learning competencies and tasks needed for learners to show in this digital era. In similar vein, Corrbet and Spinello (2020) Emphasized that from its early development, connectivism was positioned as an alternative learning theory of regular current ones, and more consistent one with a changing environment and technological shifts affecting learning and required nature of knowledge in the 21st century .

Accordingly, These, teachers can support creating more creative and self-learners, more connected with technological innovations and technical implication that will be reflected upon (EFL) teaching profession and professional development.

Review of literature

Connectivism is an emerging learning theory presented by Siemens (2005), which represented the growing interest in network theories of learning. Siemens established connectivism as a theory of learning in the digital age, as previous theories almost did not adequately consider learning when looking at knowledge requirements in the information age. Namely, how learning theory

change when information storage, processing, and recall are off-loaded onto devices and through networked connections

Siemens (2005) defines Connectivism as the integration of principles explored by chaos, network, complexity, and self-organization theories. Learning occurs within nebulous environments of shifting core elements – not entirely under the control of the individual. Learning (defined as actionable knowledge) can reside outside of ourselves (within an organization or a database), focusing on specialized information sets, and the connections that enable us to learn more are more important than our current state of knowing (Siemens, 2005, p.1). However, in a Connectivist context, learning does not literary occur in mere social interaction, but through interactions with and between networked nodes (people, places, devices, etc.) .

Hence, while a Constructivist person would likely see the network solely as a social medium for interaction, Connectivism additionally sees the network itself as an extension of the mind. Thus, Learning is a process of connecting networked nodes and information sources to inform individuals' understanding and application of concepts and processes.

Hence, it is necessary to functionalize online devices, apps and sites for current professional development of teachers in this age, so that teachers can increase management of online classes. This can be reflected on learners' performance. Teachers can be

trained on teaching simple contents to enhance successful (EFL) teaching through online contexts .

Thus, it is obvious that connectivism theory represents the best current context to increase mastery, flexibility, interaction, and accordingly enhance teachers' performance. The application of this theory can develop English Language teachers' primary stage teachers' performance. Through a suggested program based on connectivism theory that use technological devices, as well as digital strategies these teachers' concepts, knowledge, and practices can be developed in relation to the 21st requirements of language teaching and learning. Accordingly, These, teachers can support creating more creative and self-learners, more connected with technological innovations and technical implication that will be reflected upon (EFL) teaching profession and professional development.

Networks (neural, social, and technological) represent a distributed view of knowledge. In the brain, knowledge is distributed through connections between different regions of the brain, and networks .

So, learners can utilize (social and technological aspects). Knowledge is distributed through connections between individuals, groups, and devices (Siemens, 2006). This means that our network connections are not just sources of information, but the very connections that we make are parts of our knowledge

base. This focuses on connections between learners and information sources.

On the other hand, (EFL) teachers should find out a simple scenario for teaching English lessons using online songs, stories, or online mind maps in teaching through online contexts to suggest a various simple scenario using brain storming for teaching to increase learners' participation and teachers' management possibilities. Such possibilities are naturally reflected on EFL learners.

Cognitivism is an internal and external entity for language learning, where learning occurs through technological devices. Constructivism places learning as a social process and knowledge as an external entity, where learning occurs through our social interactions and knowledge is constructed through social interactions. Connectivism also places learning as a social process and knowledge as an external entity (Siemens, 2006). However, it can often take place in e contexts anytime and anywhere.

In this age primary stage (EFL) teacher should use some technological spaces, apps, and devices to improve language teaching online throughout some online devices. However, some face-to-face activities can be used in or out classrooms to develop teachers' performance. Accordingly, EFL teachers should increase their knowledge of technological techniques to develop and assess their students' performance, which can take place under the umbrella of connectivism theory.

Psychological environment in which the organizational goals are followed. It consists of occupation morality, job dedication, and assistance and cooperation among the teachers (Cai& Lin, 2006). Thus, adaptive performance is a new performance concept in which learning comprises a major performance dimension (Pulakos, 2000).

Performances and assessment are strongly related to each other and also influence each other; however, these types can be distinguished and studied separately. Furthermore, they are equally important in contributing to the overall performance of a teacher. While assessment is vital to the educational process, rating systems were developed primarily for reasons external to teachers, that is, to demonstrate to the public that students were receiving appropriate instruction or that teachers were competent, rather than to provide teachers with information that they might use to improve any kind of performance (S Fox, LM Penney, K Bruursem, 2006).

Connectivism theory implies that correcting students' mistakes can take place online. Finally, learners should write summaries, analyses and conclusions as a result of using some formats like writing story, drawing poster, designing a carton or creating anything else online suitable for any educaional situation. This is supported by the teachers' comments and rating rubrics.

According to (Wong, 2012), "classroom management is a part of professional development referring acts by a teacher to

organize students, space, time, and materials, so that student learning can take place" (p. 61). Effective teachers, who establish efficient management systems from the beginning of the school year, will have more time to devote to students learning, than teachers who are constantly trying to use an inefficient management system.

Viewing information literacy in terms of connections suggests that connectivism provides a framework for understanding how students learn to help teachers develop their performances according to their learners' actual needs as an important tool towards professional developments. The connectivist perspective, together with emerging conceptualizations of information literacy, which include Identity, Analysis, Interpretation, Interaction and can inform teaching practices that support learning via connections (Goldie, 2016) .

Couros (2009) suggests that connectivist approaching to instructional design promotes the development of personal learning networks consisting of various tools. If, as connectivism suggests, "the learning is the network", then information literacy instruction should acknowledge that students learn and create knowledge by connecting to information networks composed of myriad information resources. In the context of information literacy instruction, connectivist pedagogy can be accomplished through four philosophies and practices that follow from the

concepts of Meta literacy, and transliteracy. Assessment of EFL Teachers' Performance

Airsian (2000, P.295) defines TP as "observing and judging a teacher's skills in actually carrying out an activity or producing a product inside the classrooms." According to Eid (2005) evaluating teacher performance means "making a decision on what the teacher does inside the class containing the use of assessment techniques, teaching strategies , the ability to ask questions and make decisions." From the above definitions, Furthermore, the current study is concerned with observing and assessing EFL primary stage teachers' performance like improving teaching techniques, communicating effectively, face challenges, taking responsibility for professional development and collecting information about their learners.

The components of good teaching are too extensive, not agreed upon, context dependent, intermittently operant, and characteristic of or applied by individual teachers in unique configurations of individual competencies or performance components. Peterson (2006) indicated that constructed lists of expected teacher performances are important for discussion, making collective understanding, and common vocabulary. They are useful to prescribe beginner development, describe area of deficiency, help plan staff development, and suggest kinds of data to collect directly as client surveys or reports.

According to Miller et al. (2009) the two main ways of guiding judgments of both the assessment process used in performing a task and the product resulting from that performance are scoring rubrics/rating scales and checklists. Assessment of EFL Teachers' Performance

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Rubrics/rating scales

All the assessment procedures from the start to the end of assessment should be carried out electronically. This means that the design, test implementation, recording the response, and providing feedback are all completed using ICT (Information and Communication Technology). (Alruwais, et al, 2018, p. 34)

Context of the Problem

Working in the education field of teaching English as a foreign language for more than twenty years, in the primary stage in particular, the researcher has to realize that most EFL Primary stage teachers have performance difficulties in classroom management, and assessment. Furthermore, some preparation methods followed by EFL teachers do not focus on developing their teaching performance, especially in using technology in management and assessment.

Almost, during Covid 19 pandemic there were no studies that devoted efforts to solve EFL primary stage problems encountered during online teaching. So there is an urgent need to devote care and effort to help teachers overcome these problems.

Statement of the Problem

In this age, using technology is basic in the learning process, particularly in the primary stage; however, EFL teachers' performance in primary stage does not match the requirements of teaching English language in the 21st in general and using technological contexts in particular. This study is an attempt to develop these teachers' professionally through adopting and implementing strategies and techniques derived from connectivism theory.

Study Questions

In order to investigate the problem, the present study attempted to answer the following main question.

How can a program based on connectivism theory affect EFL primary stage teachers' professional development?

In order to answer the pervious question, the following sub-questions had to be answered

1 :What is the effect of a program based on connectivism theory on EFL primary stage teachers' performance?

2 :What are the in-service training needs of EFL teachers in the light of connectivism theory?

3 :What are the characteristics of a program based on connectivism to develop   EFL Teachers' performance?

4 :What is the effect of the suggested program in developing the English primary stage teachers' performance?

Experimentation

Hypotheses of the Study

To investigate the research problem, the study tested the following hypotheses .

1 .There is a significant difference ($P \leq 0.05$) between the mean score of the pre-test and the post-treatment of the research group in Part.1 (Using Teaching Aids Online): in favor of the pre- test .

2 .There is a significant difference (P ≤ 0.05) between the mean score of pre-treatment and the post-test of the research group in Part.2 (Online Classroom Management) in favor of the post-treatment .

3 .There is a significant difference (P ≤ 0.05) between the mean score of pre and the post-treatment of the research group Part 3 (Teaching Language Skills Online) in favor of the post-test.

4 .There is a significant difference (P ≤ 0.05) between the mean score of the pre-observation and the post-test of the research group in the overall professional development in favor of the post-test.

Study Design

This study utilized the one-group design along with a mixed research approach that implemented both quantitative and qualitative assessment. A one-group pre post test design was selected, and aimed at investigating the development that occurred in the performance of the study group before and after implementing the connectivism-based program.

Participants

An intact class of EFL primary stage-teachers (N-25) was enrolled in the study. They are teachers in the schools of New Cairo educational zone. Their ages ranged from 30 to 55 years. They have been teaching for 15 years. It was one intact group of teachers.

Instruments

The following instruments were designed and used in the present study.

- A pre/post professional development test.
- A rubric to score the test.
- Observation sheet.

Delimitations of the Study

This study is delimited to the following:

- Treatment took place with seventeen official primary school teachers in Cairo Governorate (Elshrouk Educational Zone)
- Treatment took place in the second semester of the academic year 2021/2022.
- Professional development is delimited to the teachers' performance management and assessment.
- Google Classroom was the platform for implementation, due to its availability and flexibility .

The pre/post professional development test

Test aim is to assess teachers' professional development

Test Description

The test consists of three parts. Each part deals with a group of questions that assess teachers' professional development in a specific domain as shown in table1. The total score of the test is 80 marks. (See appendix)

Table 1: Assessed professional development do

Item	The assessed parts	Score for each one
Part 1	Using online teaching-aids	40 marks
Part 2	Online classroom management	24 marks
Part 3	Teaching online language skills	16 marks
		Total score
		80 marks

In the first part, the researcher asked the teachers to find out a simple scenario for teaching an English lesson using online songs, how to utilize online mind maps in teaching some concepts such as "go green", "future career" and "my new computer", to suggest a simple scenario using brainstorming for teaching an English lesson using online mind maps, as well as how to teach an English lesson using online puzzles.

The second part, tests teachers' abilities to manage an online class. The teachers were asked to suggest online tools for planning a lesson, and to suggest suitable tips for managing an English large class online and finally to mention some techniques for correcting the students' mistakes online .

Piloting of the Test
The test was piloted on one group of EFL primary stage teachers. They were 25 teachers. It was administered prior to teaching the proposed program. The piloting procedure aimed to….

- Establish the reliability of the test.

- Determine the appropriate time needed to answer the test. Ensure the validity of the test and check the suitability of treatment for the target teachers.

Calculating test Time

The time of the test was calculated after piloting the test. This was done by calculating the time that each teacher took to answer the test, and then calculating the average time for the whole group. The average time of the test was found to be three hours according to the guidance provided.

Internal Consistency Validation

The internal validity coefficient is computed by the Pearson formula. The correlation between the scores of every single skill to the total score was calculated. The test is computed by using the SPSS. (Version, 21)

Table 2: Correlation Coefficient for the Professional Development with the Total Score.

The Professional Development Domain	Pearson Correlation
Using Online Teaching Aids	.713*
Online Classroom Management	.682*
Teaching Online Language Skills	.732*

*Correlation is significant at the 0.01 level (2-tailed).

Table 3: Correlation coefficient of every item of the test with the total Score of the test.

Item	Pearson Correlation	Item	Pearson Correlation
1	0.73*	6	0.74*
2	0.65*	7	0.68*
3	0.71*	8	0.65*
4	0.66*	9	0.69*
5	0.64*	10	0.71*

Reliability of the Test

To   assess the   test   reliability,   the   Cornbrash's   Alpha   (α) formula was used.

$$\alpha = \frac{k}{k-1}\left\lceil 1- \frac{\sum s^2{}_i}{2}\right\rceil$$

Table 4: Total Reliability Analysis Scale (Cronbach- alpha) for the g Test.

Professional Development	No. of items	$\sum s^2 i$	s^2_{u}	α -coefficient
Using Online Teaching Aids	5	2.122	9.221	.836
Teaching Online Language Skills	2	0.833	4.642	.847
Online Classroom Management	3	1.421	6.418	.823
Overall Professional Development	10	4.564	19.427	.810

Validity of the test

Content validity of professional development rubric was established through ensuring that the rubric really measures and reflects the professional development points which were previously stated in the professional development test.

2 .Observation sheet

Aim of the sheet

This sheet was designed to verify and measure the teachers' performance

Validity of the observation sheet

Through the guidance provided from the supervisors, it was determined how far the content of the questions included in the test was appropriately selected and phrased to measure the teachers' performance throughout the test.

Purpose: it is an analytic device designed to evaluate primary stage teachers' professional performance.

It is developed to explain the consistent criteria for grading with the purpose of conducting accurate and fair assessment. Description: The researcher prepared the test of connectivism theory in three parts as follows:

- Firstly, problem posing, examining multiple perspectives, critical reflection and taking an action to determine the degree to which teachers' performance meets the criteria of the task,

four levels of descriptors which different title several levels of performance were identified they were: beginning, developing, proficient and advanced.

- Secondly At the beginning level, the teachers provided limited analysis of the author's influence on the reader and rarely justified opinions, identifies some views, critically reflects upon it lacking many details trying to suggest solutions then.

The professional development program

Aim of the program:

The program was based on connectivism for EFL primary stage teachers' professional development. It aimed to present some strategies and online solutions to EFL primary stage teachers to develop themselves through the   theory principles .

Performance Objectives

At the end of the program teachers should be able to:

- To use Google classroom.
- To upload mind maps in Google classroom.
- To use teaching strategies online such as brainstorming.
- To manage large numbers of students and reply to their comments.
- To utilize the students' mistakes in learning.
- To provide feedback for improving students' performance.
- To functionalize online tools for planning an English lesson.

The program units were carefully selected to cover various aspects of teachers ' needs and interests:

- Technological Orientation.
- Teaching strategies and activities.
- Assessment techniques

Content of the Program

The program consisted of 3 units. The first unit informed teachers about how to set up an online space with Google classroom, how to add the students to their class and how to edit or delete a class. The second unit was about online teaching. By the end of this unit, teachers would be able to upload mind maps using teaching strategies such as brainstorming and online discussion, how to teach using online songs through uploading songs to Google classroom and how to teach using online puzzles. In the third unit, teachers learnt how to manage large classes. This involved online lesson planning and assessing students online.

The program focused on extracting the lessons from the target songs as well as how to use songs in Google classroom using demonstration strategy online. Teachers learnt how to manage and control large numbers in Google classroom, how to assign tasks and reply to comments through images, documents and videos in Google classroom, and finally how to functionalize online tools for planning a lesson.

Duration of the program

The program lasted for six weeks; the researcher assigned the tasks online for each part of the week to be conducted within a due time. The teachers were asked to work together at least two hours and thirty minutes in each session on Google classroom. On the other hand, the teachers had four live meetings to participate collaboratively in the e-learning program. Yet, the exact total duration of the program cannot be calculated as the teachers sometimes work asynchronously at their own pace.

Teachers' assessment

Teachers were assessed through :
- A pre/post professional development test.
- A rubric to score the test.
- Observation sheet.

Results

The results of this study are presented regarding the hypotheses of the study as follows.

Hypothesis One

There is a significant difference ($P \leq 0.05$) between the mean score of the pre-test and the post-treatment of the research group in Part.1 (Using Teaching Aids Online): in favor of the pre- test.

Table 5: Comparing the Pre and Post-test performance on Part.1

(Using Teaching Aids Online)

Items	measurement	n	$\overline{X}$	SD	df	t	Sig.
Using Teaching Aids Online	Pre- test	30	13.50	11.75	29	5.038	.01
	Post- test	30	35.20	15.00			

Table (5) shows that there was significant difference between the post- test mean scores of the Part.1 (Using Teaching Aids Online): subtest at the 0.01 levels.   Effect size ($\eta2 = .500$) is high. This means that the first hypothesis is accepted.

The mean score of the pre- treatment and the post- treatment of the research group in Part.1 (Using Teaching Aids Online): can be represented in the following figure:

Figure (1): the mean score of pre-treatment and the post-test in Part.1 (Using Teaching Aids Online)
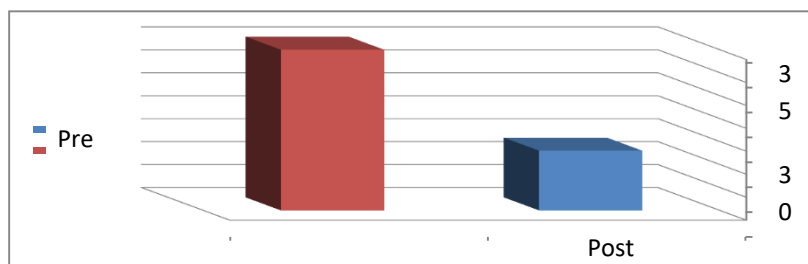
This means that the participants achieved more progress in the post test than that in the pre- test. This can be attributed to the effect of using the interactive connectivisim environment on developing Part.1 (Using Teaching Aids Online):

Hypothesis Two

There is a significant difference ($P \leq 0.05$) between the mean score of pre-treatment and the post-test of the research group in Part.2 (Online Classroom Management) in favor of the post-treatment.

Table 6: Comparing the Pre and Post-treatment performance on Part.2 (Online Classroom Management)

Table (6) shows that there were significant differences between the pre and the post- Observation mean scores of Part.2 (Online Classroom Management)

At the 0.01 level. Effect size ($\eta2 = .532$) is high. This means that the second hypothesis is accepted.

The mean score of pre- Observation and the post-test of the research group in Part.2 (Online Classroom Management) can be represented in the following figure:

Figure (2): the mean score of pre and the post-treatment of Part.2 (Online Classroom Management)
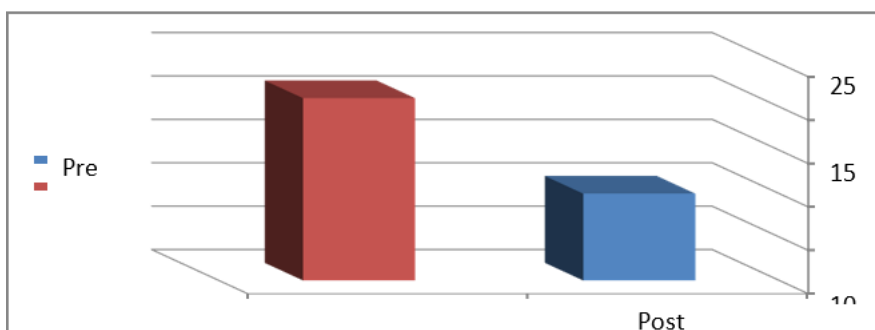
This means that the participants achieved more progress in the post -treatment than that of the pre-test. This can be attributed to the effect of using the interactive Connectivism theory Training environment on online management.

Hypothesis Three

There is a significant difference ($P \leq 0.05$) between the mean score of pre and the post-treatment of the research group Part 3 (Teaching Language Skills Online) in favor of the post-test.

Table 7: Comparing the Pre and Post-treatment performance in Part 3 (Teaching Language Skills Online)

Items	Measurement	n	$\overline{X}$	SD	df.	t	Sig.
Part 3 (Teaching Language Skills Online)	Pre-test	30	6.16	9.48			
	Post-test	30	13.53	17.97	29	4.556	.01

Table (7) shows that there were significant differences between the pre / post treatment mean scores of Part 3 (Teaching Language Skills Online) at the 0.01 level. Effect size ($\eta2 = .411$) is high.

This means that the third hypothesis is accepted.

The mean scores of the pre and the post-treatment of the research group in Part 3 can be represented (Teaching Language Skills Online) in the following figure:
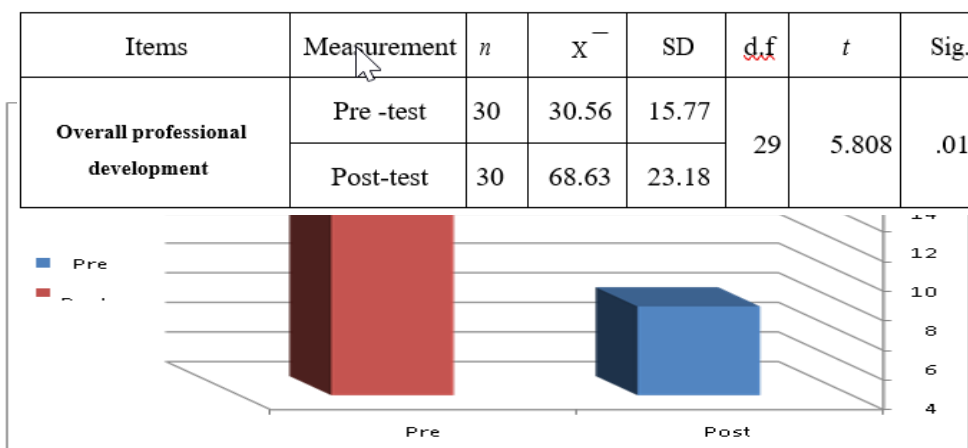
Items	Measurement	n	$\bar{X}$	SD	d.f	t	Sig.
Overall professional development	Pre -test	30	30.56	15.77	29	5.808	.01
	Post-test	30	68.63	23.18			

Figure (3): the mean score of the pre and the post-treatment of the research group in Part 3 (Teaching Language Skills Online)

This means that the participants achieved more progress in the post-Observation than that of the pre-treatment. This can be attributed to the effect of using the connectivisim-based environment on developing Part.3 (Teaching Language Skills Online).

| Items	Measurement	n	$\bar{X}$	SD	d.f	t	Sig.
Overall professional development	Pre -test	30	30.56	15.77	29	5.808	.01
	Post-test	30	68.63	23.18			

Hypothesis Four

Table 8: Comparing the Pre and Post-treatment performance on the overall professional development

Table (8) shows that there was significant difference between the post-test and the pre-test mean scores of the overall professional development items at the 0.01 level. Effect size ($\eta 2 = .537$) is high. This means that the fourth hypothesis is accepted.

The mean score of the pre-test and the post-test of the research group in the overall professional development can be represented the following figure:

Figure (4): the mean score of the pre-test and the post-test of the research group in the overall Professional development.
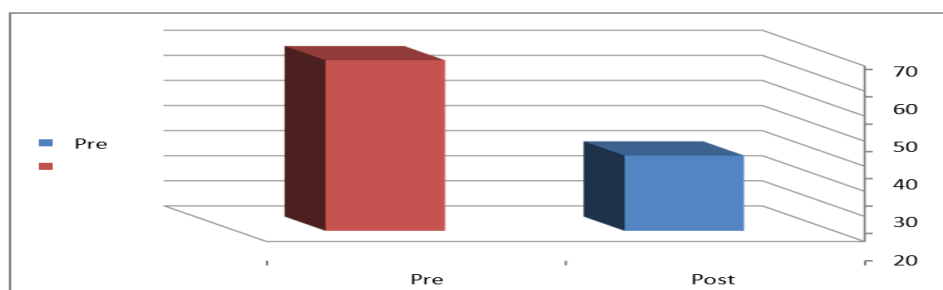
Results and discussion

Following the current trends in professional development, and considering EFL primary stage teachers' needs for professional development, connectivism proved that these teachers adopted various current concepts, acquired practices and assessment techniques. The program, pre/post-tests, revealed that teachers had significant advantages in utilizing the connectivism theory activities in a different environment for developing their performance and instructional materials. This environment helped

them overcome difficulties such as using unfamiliar vocabulary and conducting successful teaching activities leading to improving the 21st century learners' knowledge.

Furthermore, the training program based on connectivism theory e-context facilitated the development of teachers' language proficiency required for developing their performance. Through the engagement with the interactive activities, resources and teaching acts.

Application showed that connectivism theory training activities environment, had a positive effect on teachers' professional development scores. The integration of multimodal components, an interactive interface, and the ability to capture teachers' interest were identified as crucial factors in enhancing EFL primary stage teachers' professional skills.

Connectivism theory recognizes the transformative potential of technology and emphasizes the interconnectedness of information sources. Integrating technology into professional development instruction provides teachers with access to resources, educational materials, and interactive learning opportunities, enabling them to increase their awareness of development components, and their teaching practices and stay updated with the current trends in EFL instruction.

In addition, the connectivism theory training activities the e context promoted active and collaborative learning, encouraging teachers to actively participate in their own professional

development. By fostering autonomy and self-directedness, connectivism theory empowers teachers to continuously reflect on their practices, seek improvement, and strive for change and excellence.

Furthermore, connectivism theory training activities offered opportunities for the target teachers to expand their professional networks and engage in meaningful collaboration with colleagues and experts. This collaborative learning environment allowed for the exchange of ideas and experiences, leading to innovation and the development of new pedagogical approaches. Thus, building a supportive professional community can also alleviate feelings of isolation and enhance job satisfaction and motivation.

The implementation of connectivism theory training activities aligned with the broader goals of education systems promoted the target teachers for breaking ice with the 21st century requirements. By integrating connectivism theory principles into teacher professional development, educators are better equipped to foster critical thinking, problem-solving, mind mapping, creativity, and collaboration skills in their students .

While literature generally supports the positive impact of connectivism theory training activities, further empirical research is needed to explore the long-term effects, feasibility, and sustainability of such programs. Rigorous evaluation and assessment methods are necessary to gather empirical evidence on

the effectiveness and impact of connectivism theory-based initiatives, informing decision-making and program design.

In conclusion, the implementation of connectivism theory activities in the professional development of EFL primary stage teachers has the potential to significantly impact instructional practices. By embracing interactive and collaborative learning environments, teachers can enhance their language proficiency, increase awareness of the 21st requirements, and adapt their teaching strategies to meet students' evolving needs. However, careful consideration of challenges such as technological infrastructure, digital literacy skills, time constraints, resistance, sustaining engagement, program effectiveness assessment, appropriateness of the provided theories, concepts and practices as well as, scalability is crucial for successful implementation and long-term sustainability.

Furthermore, the results of the present study were detected from both quantitative and qualitative analyses. Scores of the study group in the pre and post treatment were analyzed and compared using T-test and Eta-squared formula. The results revealed the following.

-        There is a statistically significant difference at the (p<0-05) level between scores of the study group on the pre and post treatment in favor of the post application with regard to their overall professional development and in each domain, which can

be attributed to the effect of the suggested connectivism-based program.

Conclusions

Based on the study results, it can be concluded that:

- Using the connectivism theory (program) proved to be effective in developing EFL primary stage teachers in each domain of professional development.

- Using online learning as a flexible method for connecting with the teachers regardless of place or time helped them to be engaged in active learning especially when discussing real life problems.

- Suggesting current concepts, diversity of activities, selecting appropriate teaching strategies and meaningful content for the teachers enhanced the teacher's motivation to be active teachers.

- The suggested program based on connectivism theory proved its effectiveness in raising the teachers' awareness of many global problems that need to be solved.

- Using educational environment helped EFL teachers to break the ice between them and the requirements of the 21st century. This program helped EFL primary stage teachers to cope with their students age requirements.

Recommendations of the Study

Based on the previously obtained results the following recommendations are elicited:

- Teachers should increase awareness of the 21st current trends, concepts, and practices

- All teachers should be able to use digital technology appropriately to increase the students' involvement in the learning process.

- Creating effective connectivism theory programs is a key feature for helping the teachers of primary stage to construct meaning in an enjoyable educational environment.

More opportunities to negotiate other critical issues should be practiced by EFL teachers of primary stage to be active, critical citizens

Teachers should be encouraged to develop connectivist activities as an essential language component to be integrated within the language teaching process.

- Students should be given more chances to express their viewpoints freely which will help them to be active doers in the future.

Suggestions for Further Research

Based on the results of the study, the following future studies can be suggested:

- Investigating the effect of program based on connectivism theory on developing not only primary stage teachers but also all Egyptian teachers for all stages.

- Designing a training program to train EFL teachers on how to develop their students' online learning abilities and use of technology.

- Examining the effect of using pictures books on developing students' learning strategies based on connectivism.

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