

The role of learning communities professionals in developing professional competence vocational education teachers in Jordan

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Abstract— The study aimed to identify the role of learning community professionals in developing professional competence among vocational education teachers in Jordan and its relationship to the variables of gender, educational qualification, and number of years of academic experience. The descriptive approach was used, in addition to the questionnaire as a tool for the study, which was applied to 250 male and female vocational education teachers in Jordan in the second semester of the academic year 2022/2023. The study has found the role of professional learning communities in the development of professional competence for vocational education teachers in Jordan. It was average with an arithmetic average of 3,49. The study also found that there were no statistically significant differences due to the variables of gender and the number of years of experience, but it was found that there were statistically significant differences due to the educational qualification variable, which was in favor of postgraduate studies.

Keywords— Professional learning Communities, Professional Competence, Teachers of vocational education, Professional development, vocational training, vocational rehabilitation.

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El papel de los profesionales de las comunidades de aprendizaje en el desarrollo de la competencia profesional de los docentes de educación vocacional en Jordania

Abstract— El estudio tuvo como objetivo identificar el papel de los profesionales de la comunidad de aprendizaje en el desarrollo de la competencia profesional entre los docentes de educación vocacional en Jordania y su relación con las variables de género, cualificación educativa y número de años de experiencia académica. Se utilizó el enfoque descriptivo. Se usó un cuestionario como herramienta que se aplicó a 250 profesores y profesoras de educación profesional en Jordania, en el segundo semestre del año académico 2022/2023. Se buscó el papel de las comunidades de aprendizaje profesional en el desarrollo de la competencia profesional de los docentes de educación vocacional en Jordania. Se obtuvo un promedio aritmético de 3,49. Se encontró que no hubo diferencias estadísticamente significativas debido a las variables de género y el número de años de experiencia, pero se encontraron diferencias estadísticamente significativas debido a la variable cualificación educativa, que se mostró a favor de los estudios de posgrado.

Palabras Clave— Comunidades de aprendizaje, competencia profesional, docentes de educación vocacional, desarrollo profesional, formación vocacional, rehabilitación vocacional.

1 Introduction

The teacher is the main axis on which the educational process depends and represents an important factor in the success of any development as a development tool. Therefore,

the development of the teaching profession requires the development of the teacher to enable him to interact with the requirements of his specialization and the development of his time. The quality of learning outcomes is linked to the quality of teaching and the preparedness, training, and qualifications of teachers.

Recently, the concept of professional development has been linked to several terms, such as in-service training, professional development, professional growth, and teacher learning [1], hence professional development programs are receiving greater attention in educational systems.

And if they all agree on one meaning of professional development, it is that it depends on the teacher himself and on his ability to develop his practices through knowledge and reading, reflective practice, and learning groups of all kinds [2], as well as the participation of teachers in activating professional learning communities [3].

Professional learning communities are one of the modern methods of professional development. They began to appear in the last decade of the 20th century [4], and they are a group of teachers who meet periodically to learn and exchange ideas to improve teaching. They emerged to meet the growing interest in encouraging teachers' participation in professional development [5]. Professional learning communities also achieve professional qualification and development and raise general education teachers' performance levels. It shows a development in the performance of teachers, by providing means for organized professional development, such as: creating a supportive work environment, providing diverse experiences, and achieving job satisfaction for the participants [6].

Professional learning communities are also a model for improving the ability of schools to achieve their goals, the most important of which is to improve the quality of learning provided to students [5]. Participation in professional learning communities influences teaching practices, makes teaching more student-centered, and improves academic performance over time. Therefore, the results of the study by Al-Daghim and Al-Ajmi [7] emphasized the importance of the teacher's role, represented in the interest and diversification of assessment methods and modern teaching methods.

The teaching profession and its development require the competence of the teacher to enable him to interact with the demands of his specialty and the developments of his time.

The competence of the teacher is an essential pillar in the reform of educational results. These competencies require professional practice related to the teacher's daily work. This is in line with the concepts of the knowledge communication era, which emphasize the importance of the teacher, the learner, the reflecting individual, the researcher, and the collaborator. This supports the growing trend in educational circles toward the formation of a cooperative professional learning community within each school.

In 2022, Al-Otaibi [8] addresses the role of learning communities in the development of professional competencies. Her research sample consisted of 144 female chemistry teachers, and her specific goal was to comprehend the role of female chemistry teachers in Riyadh [8]. The researcher used the descriptive method and a questionnaire. The results of the analysis showed that the role of professional learning communities in the development of professional competence of chemistry teachers was moderate, and the order of the sentences in the areas of professional competence (planning, implementation, and evaluation) reached varying degrees.

Similarly, Abu Alrub et al. [9] reviewed the effectiveness of a training program for the development of the professional competence of mathematics teachers that sought to integrate students with learning difficulties into regular classes. To achieve the objective of this study, a sample of 20 teachers was selected, where the scale of the professional competence of mathematics teachers was used as a measure (pre and post) in the control and experimental groups. The results of that research showed that there were statistically significant differences in the scale of professional competence of the teacher as a whole and in the three dimensions of the scale, namely: the use of educational strategies, the active participation of students with learning difficulties within the classroom, and the organization and management of the classroom. These differences were in favor of the experimental group, which also indicates the effectiveness of the training program developed in the development of the professional competence of mathematics teachers.

Al-Mutairi [10] also sought to identify the reality of professional learning communities. Thus, he viewed the issue of obstacles to implementation and requirements from the point of view of a group of science teachers in the Qassim region. The existence of differences was revealed; there was a statistical significance between their opinions due to the variables (specialization, educational qualification, number of years of experience). This study followed the descriptive approach, and the sample consisted of all science teachers in the Qassim Education Department, totaling 84 teachers.

2 Problem the study

Professional learning communities are considered an entry point in professional development, as they are considered one of the effective professional development tools for teachers, as they provide opportunities for application and discussion about the practices and difficulties they encounter during their

work and contribute to supporting teachers' application of more modern strategies [11]. Therefore, the teacher must possess effective teaching skills, deep knowledge of educational content, teaching skills, and thinking processes.

Among the reasons that can be attributed to the weakness in educational outcomes are the traditional practices that teachers perform during teaching, which can be attributed to the weakness of the training and professional development programs that are offered to them in keeping up with developments [12]. Therefore, studies linked professional learning societies and an increase in the knowledge and professional competence of teachers [13], [14], and other studies have linked improving teaching practices and focusing on student learning [15].

In addition, a teacher-vocational education turn requires several competencies aimed at improving its performance, raising its level, and providing it with skills and capabilities that enable it to keep pace with the developments of its time.

Based on the above and through the researcher's experience—represented in his work as a teacher specializing in vocational training and through his encounters with vocational training teachers in the educational field—the study presented falls within the fields of study that seek to develop professional learning communities. It is narrowed down to a specific study problem: understanding the role of the vocational learning community in the development of professional competence among vocational training students and teachers in Jordan. This study consists of answering the following questions:

- What is the role of a community in professional learning in developing professional competence among vocational education teachers in Jordan?
- Are there statistically significant differences at the significance level ($\alpha = 0,05$) in community role at professional learning in developing professional competence vocational education teachers in Jordan, which is attributed to the gender variable (male, female)?
- Are there statistically significant differences at the significance level ($\alpha = 0,05$) in community role at professional learning in developing professional competence for vocational education teachers in Jordan, which is attributed to the academic qualification variable (diploma, bachelor's degree, postgraduate studies)?
- Are there statistically significant differences at the significance level ($\alpha = 0,05$) in community role at professional learning in developing professional competence for vocational education teachers in Jordan, which is attributed to the variable number of years of experience (less than 10 years, 10 years and more)?

3 Objectives of the study

Seeking a study to achieve the following goals:

- 1- Knowing the role of professional learning communities in developing the professional competence of vocational education teachers in Jordan
- 2- Find out that there are statistically significant differences at the significance level ($\alpha = 0,05$) in the role of professional

learning communities in developing the professional competence of vocational education teachers in Jordan, which is attributed to the gender variable (male, female).

- 3- Find out that there are statistically significant differences at the significance level ($\alpha = 0,05$) in the role of professional learning communities in developing the professional competence of vocational education teachers in Jordan, which is attributed to the academic qualification variable (diploma, bachelor's, postgraduate studies)
- 4- Find out that There are statistically significant differences at the significance level ($\alpha = 0,05$) in the role of professional learning communities in developing the professional competence of vocational education teachers in Jordan, which is attributed to the variable number of years of experience (less than 10 years, 10 years and more).

The significance of the study lies, firstly, in the importance of theory. As it is a modern method of professional development, which are professional learning communities, to raise the level of performance of teachers and develop their performance skills and teaching practices. In addition, to enrich the theoretical side associated with professional learning communities as one of the professional development programs.

Secondly, the importance of the applied study was reflected through attracting the attention of vocational education teachers to the importance of learning communities in the field of vocational education and training in developing the professional competence they have. In addition, decision-makers in the Jordanian Ministry of Education benefited from the results of the study by providing appropriate training and qualification for vocational education teachers in the field.

Now let's define the limits of the study. The objective was to understand the role of the professional learning community in developing the professional competence of professional training teachers in Jordan. Its time limit was the second semester of the 2022-2023 academic year. Its spatial limit was the public and private schools of Jordan, supervised by the Jordanian Ministry of Education.

4 Terms of the study and its procedural definitions

Includes the study Terminology for the following major. Professional learning communities: Known [16]. It is a group of teachers who engage in critical discussions of their teaching practices in a reflective, collaborative, educational, directed, comprehensive, and continuous manner to increase their effectiveness and promote professional growth. As known [17] as a gathering of a group of teachers or female teachers to carry out a learning process in a collaborative, goal-oriented framework that seeks to improve teaching practices for them. In addition, defines the researcher's procedurally professional learning communities: with a group of vocational education teachers, who participate in critical discussions of his practice teaching reflectively and collaboratively, and performing his

work to the fullest extent, including achieving the desired goals.

Professionalism: Know him [18] that the level of the teacher's possession of a set of knowledge, skills, and attitudes that enable him to play his role wisely and skillfully in the educational situation to achieve the objectives of the teaching, it's platform, and can be measured according to agreed-upon standards. As known [16] it is a set of teaching knowledge and skills related to lesson planning, implementation, and evaluation, which must be possessed by the teacher during his preparation, which enables him to perform the tasks entrusted to him to the fullest, including achieving the desired and measurable goals. He defines it as a Procedural researcher: with the ability of education teachers to do their job with skill, speed, and mastery, and the integration of a number of his professional skills in the field of planning, implementation, and evaluation.

5 Field method and procedures

Curriculum of the study: used the study the descriptive approach was chosen for its suitability for the subject of the study Present and his ability to achieve the objectives of the study set.

Community the study and appointed. Create a community study of vocational education teachers and teachers in a government school the private one that is supervised by the Jordanian Ministry of Education; The study sample consisted of (250) male and female teachers of vocational education in Jordan, who were chosen by a simple random method. The following table 1 shows the distribution of the study sample according to its variables:

Table 1
Distribution of study sample members according to study variables

Variable	Class	Repetition	The ratio (%)
Sex	male	137	55%
	female	113	45%
Total		250	100 %
Qualification Scientific	Intermediate diploma and bachelor's degree	171	68%
	Postgraduate	79	32%
Total		250	100%
Years of Experience	Less than 10 years old	159	64%
	10 years and over	91	36%
Total		250	100%

Source: Author

5.1 Study tool

In order to achieve the objectives of the study, the study tool was built and developed taking as reference previous studies and theoretical literature related to the subject of the present study, such as the study [19], [20], [21], [22], [23], [24]. Where the tool consisted in its initial form of 21 paragraphs distributed in 7 paragraphs for each of the main

areas of the tool, which are the areas of planning, implementation, and evaluation.

The validity of the study tool was verified by the validity of the content (the validity of the arbitrators). Also to verify the authenticity study tool. It was presented to a group of arbitrators specializing in the field of curricula and teaching methods in vocational education, experienced educational supervisors working in education directorates, and my teachers and teachers of vocational education. Fifteen people expressed their opinions about the tool regarding the degree of linkage between the questions across fields, their comprehensiveness, diversity of content, and the relevance of the questions to the fields of study. They were also assigned an approval rating of 85% or higher for acceptance of the question.

The questionnaire questions were modified based on the notes and proposed amendments, with some paragraphs deleted and merged. The questionnaire was reworded in its final form, with several paragraphs added. The entire questionnaire consists of 13 questions distributed across the following areas: the planning domain (4 items), the scope of implementation domain (5 items), and the actual schedule domain (4 items).

Internal consistency validity. The internal consistency of the items of the study tool was calculated on a survey sample consisting of 15 vocational education teachers from the same study population, but from outside its sample, by calculating the correlation coefficients between the scores of each paragraph and the total score of the tool, and the following table 2 explains this.

Table 2
Correlation coefficient and level of significance between each item of the tool and its total score

M.	The first field: planning		M.	The second field: implementation	
	Correlation coefficient	Value (Sig.)		Correlation coefficient	Value (Sig.)
1	*0,487	0,000	1	**0,547	0,000
2	**0,447	0,000	2	**0,496	0,000
3	**0,547	0,000	3	**0,531	0,000
4	**0,497	0,000	4	**0,556	0,000
			5	**0,542	0,000
The third field:					
Calendar					
1	**0,582	0,000	3	*0,520	0,000
2	**0,547	0,000	4	**0,492	0,000

**D correlation at the significance level of 0,01
Source: Author

From Table 2 above, it is clear that all probability values were below the 0,05 significance level, indicating that the correlations are statistically significant and, consequently, that the study scale and its paragraphs exhibit high internal consistency. The stability of the study tool was verified by applying Cronbach's alpha coefficient to statements related to the role of professional learning communities in developing the professional competence of vocational training teachers in Jordan.

Statistical treatment was used. After collecting the study data, the researcher reviewed them for computer entry. These were entered by assigning certain numbers, that is, converting verbal responses into digital ones. A five-point Likert scale was used to answer "strongly agree" with five points, "agree" with four points, "neutral" with three points, "disagree" with two points, and "strongly disagree" with one point.

The data were statistically processed by extracting arithmetic means, standard deviations, t-tests, one-way

analysis of variance (ANOVA) and Cronbach's alpha stability equation using the Statistical Software for Social Sciences (SPSS 21).

The arithmetic mean of the terms in the study tool can be interpreted as shown in the following Table 3.

Table 3 Indicative of the arithmetic mean		
High	Middle	Low
3,68-5	2,34-3,67	1-2,33

Source: Author

6 Results of the study and discussed

Results of the first question, which asks "What is the role of learning communities in developing the professional competence of vocational teachers in Jordan?" To answer the questions, complete the calculation of arithmetic means and

standard deviations for the fields of study. The following table 4 explains.

Table 4

Arithmetic means and standard deviations of the paragraphs. The role of learning communities in developing the professional competence of vocational teachers in Jordan is presented in descending order of their arithmetic means

Rank	Areas of professional competence	SMA	Standard deviation	The level
First: Planning: Professional learning communities seek to:				
1	Familiarity with teaching objectives vocational education and its levels in the light of the main features of the theories of learning and growth and the characteristics of learners.	3,81	0,64	high
2	Good planning of lesson objectives.	3,63	0,68	middle
3	Design lessons to achieve student participation as a member of a learning group.	3,45	0,72	middle
4	Good planning of educational activities attracts Students And you motivate them to search and survey.	3,30	0,77	middle
The overall score for the planning field as a whole		3,54	0,70	middle
Second: Implementation: Professional learning communities seek to:				
1	Selection and use of teaching aids and techniques for vocational education such as modeling, multimedia, and simulation software.	3,91	0,58	high
2	Using different learning resources and technical methods to provide appropriate knowledge and skills.	3,70	0,63	high
3	Guide Students To practice science operations, and define it. The relationship between science, technology and society	3,51	0,79	middle
4	Use strategies that allow The practice of scientific inquiry.	3,47	0,66	middle
5	Employ appropriate methods of learning Students scientific concepts and practices Skills that help address poor learners' level vocational education.	3,26	0,58	middle
The overall score for the field of implementation as a whole		3,57	0,64	middle
Third: The field of assessment: Professional learning communities seek to:				
1	Discuss the scientific level of the strengths and weaknesses.	3,55	0,67	middle
2	Presentation feeds adequate review of its practices professional.	3,42	0,71	middle
3	Use different evaluation methods such as projects, homework, and portfolios.	3,31	0,60	middle
4	Conducting action research that addresses problems related to medicine courses.	3,18	0,69	middle
The total score for the evaluation field as a whole		3,36	0,66	middle
Total score for the areas of role of professional societies		3,49	0,66	middle

Source: Author

It is clear from the previous Table (4) that the role of professional learning communities in developing professional competence for teachers of vocational education in Jordan came with an average score for all domains and for the total score of the scale, whose arithmetic mean was 3,49 and its standard deviation was 0,66. Professional learning communities have played a major role in the development of professional competence for teachers of vocational education

infield "planning "Which obtained an arithmetic mean of 3,54 and a standard deviation of 0,70. I got the phrase stating that Familiarity with the objectives of teaching vocational education and its levels in the light of the main features of the theories of learning and growth and the characteristics of learners. On top of my average and who reached 3,81 and a standard deviation of 0,64 whereas, the phrase "well-planned educational activities that attract students and motivate them to

search and investigate" was given less arithmetic mean and who reached 3,30 and a standard deviation of 0,77.

Professional learning communities have also played a major role in the development of professional competence for vocational education teachers in the implementation field. The phrase came from which states that "selection and use of means and techniques related to teaching vocational education such as modeling, multimedia, and simulation programs" ranked first with an arithmetic mean of 3,91 and a standard deviation of 0,58. What happened the phrase "Employing appropriate methods for students' learning of scientific concepts, and their practices of skills that help address the weak level of learners in vocational education". The minimum mean was 3,24 and the standard deviation was 0,58.

As for the role of professional learning communities in the development of professional competence for vocational education teachers in the field of "calendar", the phrase "discussing the scientific level of students" has strengths and weaknesses in achievement scholastic ranked first with an average of (3.55) And a standard deviation of (0.67). Whereas, the phrase "conducting action research that addresses problems related to students or the academic course" ranked last, with an arithmetic average of (3.18) and a standard deviation of (0.69).

By the previous results, it is clear that the learning community's professional role is mediatory in developing the professional competence of vocational education teachers in Jordan. Has been attributed to this the role of professional learning communities in raising the level of professional competence for vocational education teachers in a form general, to training programs and workshops organized by it Jordanian Ministry of Education. To coincide with the development of curricula, and to achieve the objectives of development plans in the Kingdom Hashemite Jordan develop education, which may contribute In knowing the degree of awareness before Vocational education teachers About the importance of developing his competence Professional through professional learning communities to keep abreast of educational developments modern. This question results from the second, which states Are there statistically significant differences at the significance level ($\alpha = 0,05$) in the role of

Sex	The number	SMA	Standard deviation
males	137	3.51	0.61
females	113	3.47	0.67
Total marks	250	3.49	0.64

professional learning communities in developing the professional competence of vocational education teachers in Jordan, which is attributed to the gender variable (male, female)?

To answer this the question is extracted the arithmetic means and standard deviations of the scores of the study sample according to variable gender (male, female), Wall Schedule the next (5) shows that:

Table 5

Arithmetic means and standard deviations to the role of professional learning communities in developing the professional competence of vocational education teachers in Jordan, which is attributed to the gender variable (male, female)

Source: Author

It turns out from Table 5 that there are no statistically significant differences in the professional learning communities in developing the professional competence of vocational education teachers in Jordan, which is attributed to the gender variable (male, female). This result can be attributed to the fact that male and female teachers do not differ from each other in the type of training or qualification they receive from the courses held by the Jordanian Ministry of Education for them. This result may be logical, of course, because all teachers in the Ministry of Education receive the same services. indiscriminately question results from the third, which states Are there statistically significant differences at the significance level ($\alpha = 0.05$) in the role of professional learning communities in developing the professional competence of vocational education teachers in Jordan, which is attributed to the variable academic qualification of the teacher(Intermediate diploma and bachelor's degree, Postgraduate)?

To answer this question, the arithmetic means and standard deviations of the scores of the study sample were extracted according to the variable: Teacher's academic qualifications (intermediate diploma, bachelor's degree, and postgraduate studies). The table shows the results.

Table 6

Arithmetic means and standard deviations to the role of professional learning communities in developing the professional competence of vocational education teachers in Jordan, which is attributed to the variable of the teacher's educational qualification (intermediate diploma and bachelor's degree, postgraduate studies)

Qualification	the number	SMA	standard deviation
Intermediate diploma and bachelor's degree	171	3,42	0,02
Postgraduate	79	3,68	0,12
Total marks	250	3,55	0,07

Source: Author

It turns out from Table 6, "The role of professional learning communities in developing the professional competence of

vocational education teachers in Jordan," which is attributed to the variable of the teacher's academic qualification, to the

degree of the diploma, and to the intermediate and bachelor's degrees. Its arithmetic mean was 3,42 with a standard deviation of 0,02, while the arithmetic mean for the graduate studies variable was 3,68 with a standard deviation of 0,12. It

was completed the use of a one-way analysis of variance for the scores of the study sample on the Academic qualification variable; Table 7 shows that.

Table 7

Univariate analysis of the role of professional learning communities in developing the professional competence of vocational education teachers in Jordan, which is attributed to the variable of the teacher's educational qualification (intermediate diploma and bachelor's degree, postgraduate studies)

Source of contrast	Sum of squares	Degrees of freedom	Mean of squares	Value (q)	Statistical significance
Between groups	0,423	1	0,423	0,694	0,001
Within groups	14,954	225	0,447		
The total		226			

It can be seen from Table 7 that there are no statistically significant differences in the role of professional learning communities in developing the professional competence of vocational education teachers in Jordan, which is attributed to the variable of the teacher's educational qualification (intermediate diploma and bachelor's degree, postgraduate studies), as the value of F is 0,694 and the level of significance is 0,001.

This result can be explained, namely that there are no differences between vocational education teachers in The role of professional learning communities in developing professional competence which is attributed to the variable of the teacher's educational qualification (intermediate diploma, bachelor's degree, postgraduate studies) since all teachers underwent similar training programs by the Ministry of Education. Jordanian Education These programs and courses played a major role in influencing the performance of teachers.

In addition, circumstances functionally forced teachers should develop themselves and join the courses held by the

Ministry of Education, which plays a role in promotions and job promotions for them, and try to continue the educational process.

The researcher attributes this result also to the contributions made by the Ministry of Jordanian Education in keeping up with everything new and trying to develop and qualify teachers, which comes from the availability of qualified technical and technical human cadres, who can build a system developed to contribute to progress and prosperity. The question results from the Fourth, which states: Are there statistically significant differences at the significance level $\alpha = 0,05$ in the role of professional learning communities in developing the professional competence of vocational education teachers in Jordan, which is attributed to the variable years of experience (Less than 10 years old, 10 years and over)? To answer this the question is extraction of the arithmetic means and standard deviations of the scores of the study sample according to the Variable number of years of experience (less than 10 years, 1.0 years or more). Wall Table 8.

Table 8

Arithmetic means and standard deviations to the role of professional learning communities in developing the professional competence of vocational education teachers in Jordan, which is attributed to the variable number of years of experience (less than 10 years, 10 years, and more).

Years of Experience	The number	SMA	Standard deviation
Less than 10 years old	159	3,42	0,62
10 years and over	91	3,39	0,70
Total marks	250	3,40	0,66

It turns out from Table 8 that there are no statistically significant differences in the professional learning communities in developing the professional competence of vocational education teachers in Jordan, which is attributed to the variable number of years of experience (less than 10 years, 10 years, and more). Where this result can be attributed to the fact male and female teachers, no matter how much their experience is increased or decreased, must enroll in the training and rehabilitation courses held by the Jordanian Ministry of Education to maintain the quality of the educational process. In addition to the interaction and mixing of teachers with each other, whether they are experienced or not, the few or many contribute to benefiting from their experiences, and this reduces the existence of differences between them. Recommendations and proposals:

Through the results of the study, the researcher recommends the following:

- Take advantage of the result of the study on the role of learning communities in the development of professional competence for teachers of vocational education in Jordan. In developing professional growth programs for them.
- Training teachers more on how to apply professional learning communities, and achieve their dimensions.
- Procedure Similar to the role of professional learning communities for teachers of other subjects, such as art education and physical education, and adding new variables.
- Procedure a study to understand how teachers learn within professional learning communities and to relate to what is happening within this is amazing communities with professional competence.
- Studying the reality of professional learning communities for vocational education teachers and

requirements for their application in the stage basic in Jordan.

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