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## Abstract

The study aimed to identify the training needs of teachers in Jordan in light of modern trends in professional development. To achieve this goal, the researchers used the descriptive analytical approach by preparing a questionnaire to identify training needs, consisting of 39 statements, distributed over three main axes: the subjective aspect, the cognitive aspect and the performance aspect. The primary study sample consisted of 139 vocational education teachers. The study's results concluded that the level of training needs in the performative and subjective aspects was high, the cognitive aspect was moderate, and the overall score for the fields was high, with an arithmetic mean of 3.76 and a standard deviation of 0.65. The domains were arranged according to their arithmetic averages, beginning with the performance aspect, then the subjective aspect, then the cognitive aspect. The study recommended the necessity of paying attention to training needs, which is the first step towards properly planning training programs for teachers.

**Keywords:** vocational teacher training, development education, technical and vocational education, vocational education

## Resumen

El estudio tiene como objetivo identificar las necesidades de formación de los docentes en Jordania, a la luz de las tendencias modernas en el desarrollo profesional. Para lograr este objetivo,

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los investigadores utilizaron el enfoque analítico descriptivo preparando un cuestionario para identificar necesidades de capacitación, compuesto por 39 afirmaciones distribuidas en tres ejes principales: el aspecto subjetivo, el aspecto cognitivo y el aspecto de desempeño. La muestra del estudio primario estuvo compuesta por 139 profesores de educación vocacional. Los resultados del estudio concluyeron que el nivel de necesidades de entrenamiento en los aspectos performativo y subjetivo fue alto, el aspecto cognitivo moderado y la puntuación global de los campos fue alta, con una media aritmética de 3.76 y una desviación estándar de 0.65. Los dominios se ordenaron según sus promedios aritméticos, comenzando con el aspecto de desempeño, luego el aspecto subjetivo y luego el aspecto cognitivo. El estudio demuestra la necesidad de prestar atención a las necesidades de formación, que es el primer paso hacia una planificación adecuada de los programas de formación de docentes.

**Palabras clave:** formación de docentes vocacionales, educación para el desarrollo, educación técnica y vocacional, educación vocacional

## Resumo

O estudo teve como objetivo identificar as necessidades de formação dos professores na Jordânia à luz das tendências modernas no desenvolvimento profissional. Para atingir esse objetivo, os pesquisadores utilizaram a abordagem analítica descritiva, elaborando um questionário para identificação de necessidades de treinamento, composto por 39 afirmações distribuídas em três eixos principais: o aspecto subjetivo, o aspecto cognitivo e o aspecto de desempenho. A amostra primária do estudo foi composta por 139 professores do ensino profissional. Os resultados do estudo concluíram que o nível de necessidade de treinamento nos aspectos performativos e subjetivos foi alto, o aspecto cognitivo foi moderado e a pontuação geral dos domínios foi alta, com média aritmética de 3,76 e desvio padrão de 0,65. Os domínios foram organizados de acordo com suas médias aritméticas, iniciando pelo aspecto desempenho, depois pelo aspecto subjetivo e depois pelo aspecto cognitivo. O estudo recomendou a necessidade de prestar atenção às necessidades de formação, o que é o primeiro passo para planear adequadamente os programas de formação de professores.

**Palavras-chave:** formação profissional de professores, educação para o desenvolvimento, educação técnica e profissional, educação profissional

## 1. Introduction

Training needs form the fundamental basis upon which the planning and design of educational programs are built. Training designed based on the needs that meet the requirements of teachers is more effective, and the training results can be measured and evaluated in light of those needs. Preparing teachers and providing in-service training are crucial foundations of professional development. This type of training is seen as a strategy for continuous sponsorship and professional growth that ensures the continued association of the individual with the profession of education. It also aims to provide enrichment and activation programs for old teachers and improve their skills to perfection, improving the educational climate in schools by raising their morale (Abdeen, 2008).

Al-Ahmad (2005) emphasized the necessity of continuous education for teachers, as a teacher cannot live their entire life with a specific set of knowledge and skills. Due to the pressure of the cognitive revolution and technological and informational development, the educational process only achieves its importance through the comprehensive growth of learners, which requires the professional development of teachers to confront and keep pace with these developments.

Modern trends in teacher training serve as the starting point for building the training process because development requires familiarity with them to keep pace with the challenges of the times (Al-Ajez et al., 2010). Shdeifat and Arshid (2009) state that the most important modern trends in teacher training are to consider training one of the essential components of lifelong education, disseminating innovations, focusing on creative models, and presenting the educational importance of new practical knowledge and educational experiences in the field of teaching.

Al-Otaibi (2014) believes that training may not be the radical solution to developing knowledge and science, but it is one of the solutions that contribute effectively to the development of knowledge whenever the training process is prepared in all its stages according to scientific methods, and there is a minimum of innate readiness to learn among the trainees. The stage of identifying training needs is the basic beginning in the series of interconnected episodes of the training process, and it is the foundation for building effective training programs that contribute to the actual development of trainees' performance, improve their knowledge and skills, and improve their attitudes (Al-Nuwaijem, 2005).

Some international, Arab, and local conferences and seminars have recommended providing teachers with training and professional growth opportunities. At the global level, the American Council on Education report recommends that training programs should be the focus of attention of teacher preparation institutions as part of the main mission (Al-Kandari & Faraj, 2001). Therefore, the process of determining the training needs of teachers is considered a matter of great importance, with its status and significance recognized by those concerned with identifying training needs as the first step in sound planning towards achieving the goals of the educational institution (Al-Enezi, 2009; Musa, 2014).

Researchers in this field confirm that the interest of a large number of officials in identifying training needs clearly demonstrates its importance. It is the first building block towards achieving the goals of any institution that wants to rise to the highest levels. It is evident that professional development has needed the evolution of training methods and approaches, along with a transformation in the outlook of both trainees and trainers on the training process. A review of training programmes, both past and present, can offer insights into the impact of professional development on training programmes. It becomes evident that training characteristics, in the context of professional development, integrate theory and practice, emphasising education and flexibility to facilitate modification and adaptation according to requirements. Furthermore, it is crucial to recognise that individuals are not merely recipients of training, but also contributors to its design. Attention to evolving trends and enhancing skills is also paramount. Additionally, trainees should be engaged in determining the requisite training programmes they require.

Numerous studies have addressed on this topic due to its great importance in the educational process. For example, the study by Almarshad (2017) aimed to determine the training needs of social studies teachers at the intermediate stage in Al-Jawf, in light of modern educational trends. Also, Al-Ali (2016) aimed to identify the necessary training needs of teachers of gifted students in the Hashemite Kingdom of Jordan; Al-Thaqafi (2013) conducted a study to identify the training needs of middle school Mathematics teachers to implement advanced courses; and Al-Sayed (2011) conducted a study to determine the training needs of teachers in light of the requirements of the knowledge society. Moreover, Johnston (1990) focused on identifying the necessary training needs for basic-stage teachers, while Musa (2007) aimed to state the training needs for teachers according to the professional characteristics of the teacher in light of education trends towards the knowledge economy. With aims to contribute to the research on this topic, this study seeks to identify the training needs of vocational education teachers in Jordan, in light of modern trends in professional development.

## 2. Aims of this study in the Jordanian context

Training and its importance, as well as identifying the training needs of teachers, have become clear in all countries concerned with the quality of education in their system. In that sense, the Kingdom Jordanian Hashemite's educational system seeks to provide all efforts and capabilities so that training achieves its desired goal in the sustainable development of education while ensuring the quality of outcomes. Musa (2014) confirms this in his study that the development of training in the Kingdom Jordanian Hashemite kept pace with global developments. The educational system used various procedures, perhaps the most important of which were sending teachers to foreign missions, postgraduate studies, internal delegation and training teachers locally in educational training centers and local universities.

Besides, Shdeifat and Arshid (2009) stress the importance of choosing the teacher well and carefully preparing and training them for the success of the educational process, especially since they are not only responsible for transferring knowledge, but also providing learners with experiences, building knowledge and employing it. Therefore, they have great responsibilities that they nees to fulfill by preparing, qualifying and developing their abilities to perform their mission perfectly.

Mahapatra (2020) emphasized that modern education also calls for continuing an individual's learning throughout their life and believes that growth must continue to achieve development that depends on temporal development. Moreover, it was confirmed (Almarshad, 2017) that the term professional development includes all forms of educational services provided to the teacher to enhance their skills, so in-service teacher training should be a continuous process throughout their study period. The results of the study by Al-Sayed (2011) also revealed some agreement on the importance of training to deal with information technology and e-learning.

In addition, the results of the study by Al-Kharib (2017) have shown a close connection between training and professional development for teachers, as recommended by the study by Qais (2008). It emphasized the necessity of developing teachers' awareness of the concepts of self-professional development and paying attention to their professional development. Al-Gosaibi (2010) recommended creating a culture of development in the school, supported by school supervisors and principals, and the necessity of having controls for the in-service training process based on the number of courses with a teaching license or job promotion.

Despite the importance and the precise definition of goals that these studies show, the tangible reality in educational outcomes does not match the efforts, available capabilities and approved material resources. All of this drew the attention of many researchers to the necessity of going into the field and trying to uncover the training needs of vocational education teachers from their point of view. Therefore, this study poses the following question: what are the training needs of vocational education teachers in Jordan in light of modern trends in professional development?

## 2.1. Questions for this study

More specifically, the current study attempts to also answer the following questions:

- What are the training needs of vocational education teachers in Jordan regarding the personal aspect from their point of view?
- What are the training needs of vocational education teachers in Jordan regarding the cognitive aspect from their point of view?
- What are the training needs of vocational education teachers in Jordan regarding the performance aspect from their point of view?

## 2.2. Importance of this study

### 2.2.1. Theoretical importance

The study highlights the importance of training the teachers, taking care of them and taking advantage of all available capabilities that work to help them advance towards a pioneering position commensurate with their lofty mission. Additionally, a teacher's professional development is considered a continuous process. It begins with the stage of preparing them, then the stage of practicing the teaching profession and then refining their skills continuously throughout the period of practicing the profession to ensure the quality of education sustainably.

### 2.2.2. Practical importance

Identifying the training needs of teaching professional in the field of Education as a priority in their professional development could help those in charge of training programs in preparing programs according to the real needs, requirements and levels. It is also expected that teachers, educational supervisors, education specialists and officials could benefit from the results of this study in developing training needs through feedback that was obtained in the results of this study.

## 2.3. Theoretical framework

### 2.3.1. Training needs

Training needs are defined as "the gap between the knowledge, skills, and attitudes that a teacher must have in order to perform his duties efficiently and effectively, and those skills, experiences, and attitudes that are currently available to them" (Moussa, 2014, p. 23). The researcher defines training needs procedurally: the set of knowledge, skills and attitudes that education teachers desire. They are professional in acquisition and they can be estimated by the degree by which teachers respond to the training needs questionnaire that was designed for this study.

### 2.3.2. Modern trends

Modern trends can be defined as "the individual's preferences and choices for the conditions of the educational process that can influence his learning and determine the place, time, and manner in which learning occurs, and with what materials" (Samara & Abdel Salam, 2008, p. 11). Researchers define modern trends procedurally: the set of modern theoretical and applied opinions that emerged thanks to the information revolution and the knowledge explosion, which the current study seeks to measure through the responses of vocational education teachers to a questionnaire about training needs.

### 2.3.3. Professional development

Professional development is defined idiomatically as:

An intentional process carried out by educational institutions that develop their programs to increase the teacher's professional growth. It also includes a set of planned and organized procedures that result in the professional growth of the teacher, represented by further improvement of his knowledge and concepts related to his work and professional responsibilities. (Al-Taher, 2010, p. 14)

The procedural definition adopted in this research (Speck & Knipe, 2005) for professional development is the following: an organized and acquired collaborative functional process carried out by teachers individually or collectively, which is carried out in accordance with adult education methods and contributes to their professional growth in terms of their conceptualization, skills and abilities. Teaching is expected to advance student achievement.

## 2.4. Delimitations of the study

- **Objective limits:** The training needs of education teachers professional in light of modern trends in professional development.

- **Temporal boundaries:** The study was applied during the first semester of the academic year 2023-2024.

- **Human limits:** Education teachers professionals in government schools in Jordan.

- **Spatial boundaries:** Public schools affiliated with the Jordanian Ministry of Education in various directorates and regions.

## 2.5. Methods and field procedures

- **Approach:** The current study followed the descriptive analytical method because it is the most suitable methodology for the objectives of the study.

- **Population and sample:** The study population consisted of all male and female vocational education teachers in Jordan. As for the study sample, 241 questionnaires were distributed, of which 187 were retrieved. A total of 48 responses were excluded due to incomplete data, while 139 responses were from the entire community. Thus, the study sample represented a simple random number of 139 vocational education teachers in Jordan.

- **Instrument:** An initial questionnaire related to the training needs of the professional teachers was prepared after referring to theoretical literature and previous studies related to the subject of the study, such as Benning et al. (2023), Ding et al. (2023), Frantz et al. (2022), Guerrero-Romera & Pérez-Ortiz (2022), Mahapatra (2020), Tzafilkouet et al. (2023) and Walker et al. (2020). Initially, the questionnaire consisted of 47 items distributed over three main axes: the subjective aspect, which had 15 items; the cognitive aspect, which had 19 items; and the performance aspect, which had 13 items.

## 2.6. Validity and reliability of the instrument

To ensure the validity of the instrument, face validity was used, represented by the veracity of the arbitrators, and structural validity, represented by the correlation coefficients and internal consistency of the questionnaire items, as follows:

### 2.6.1. Apparent honesty

In order to ensure the apparent validity of the study tool, it was presented to a group of 10 arbitrators, who were professors of curricula and teaching methods in vocational education, educational administration, measurement and evaluation at the Yarmouk University and AL-Balqa Applied University, Jordan. The arbitrators were asked to express their opinion on the questionnaire's items and their suitability to its axes, and to add, modify or delete any other items as they saw fit. Based on the arbitrators' comments, some amendments were made, which consisted on modifying the wording of some items and deleting others. Thus, the instrument's final form consisted of 39 items distributed over the three axes explained in the previous section.

### 2.6.2. Construct validity

To ensure the structural validity of the questionnaire's items, a survey sample of 30 teachers from the same study population was applied, but from outside the study's original sample, who were chosen randomly. The following Table 1 shows the correlation coefficients (Pearson) for the items of each axis of the questionnaire and for the questionnaire as a whole. It is clear from Table 1 that all correlation coefficients between the questionnaire items and the total score for the field of the training needs questionnaire are statistically significant at the significance level of 0.01. This shows the internal consistency  and validity of the questionnaire's items, which confirms their results can be extrapolated.

**Table 1.** Correlation coefficients between items and the field to which they belong

| Training needs on the subjective side | | Training needs on the cognitive side | | Training needs on the performance | |
|---|---|---|---|---|---|
| Item | Link | Item | Link | Item | Link |
| 1 | **0.649 | 1 | **0.648 | 1 | **0.834 |
| 2 | **0.839 | 2 | **0.801 | 2 | **0.733 |
| 3 | **0.766 | 3 | **0.893 | 3 | **0.682 |
| 4 | **0.937 | 4 | **0.992 | 4 | **0.739 |
| 5 | **0.772 | 5 | **0.739 | 5 | **0.771 |
| 6 | **0.639 | 6 | **0.687 | 6 | **0.893 |
| 7 | **0.846 | 7 | **0.759 | 7 | **0.740 |

| 8 | **0.710 | 8 | **0.902 | 8 | **0.635 |
| 9 | **0.742 | 9 | **0.778 | 9 | **0.722 |
| 10 | **0.762 | 10 | **0.755 | 10 | **0.810 |
| 11 | **0.821 | 11 | **0.718 | | |
| 12 | **0.652 | 12 | **0.772 | | |
| 13 | **0.669 | 13 | **0.872 | | |
| | | 14 | **0.891 | | |
| | | 15 | **0.749 | | |
| | | 16 | **0.824 | | |

**Source:** Own elaboration. Statistical functionYesaAt was employed at a significance level of (0.01).

### 2.6.3. Tool stability

The internal consistency reliability coefficient was calculated between the items through the stability factor A Cronbach to ensure the instrument's reliability. The following table (Table 2) explains the stability coefficients:

**Table 2.** Stability coefficients for an interviewer: the questionnaire

| The hub | Number of items | Cronbach's alpha value |
|---------|-----------------|------------------------|
| Self | 13 | 0.721 |
| Cognitive | 16 | 0.701 |
| Performative | 10 | 0.693 |
| Total degree | 39 | 0.705 |

**Source:** Own elaboration.

Table 2 shows the value of the stability coefficients calculated by an interviewer question-naire and the total score ranged between 0.693 and 0.721. The total score was 0.705. It is a high va-lue as is close to the correct one for the total score. This confirms that the questionnaire is highly reliable to assess an interviewer's training needs.

### 2.6.4. Statistical analysis

To verify the validity and reliability of the instrument, as well as to process the data obtained and analyze the results, we used the appropriate statistical methods package SPSS 21, which will collect the study questions, and employ arithmetic means and standard deviations to identify the level of teachers' training needs. The Pearson correlation coefficient to measure the validity of

the study tool, and the Cronbach's alpha reliability coefficient were also used. Additionally, the Likert five-point scale method was used to assess the questionnaire items that were formulated positively. The response weights for the items were as shown in the Table 3.

**Table 3.** Response scale for the questionnaire items

| A very large degree | Great degree | Average degree | Low degree | Very low degree |
|---|---|---|---|---|
| 5 degrees | 4 degrees | 3 degrees | 2 degrees | 1 degrees |

**Source:** Own elaboration.

In order to make judgments about the arithmetic averages, the score was considered high if the arithmetic averages ranged between 3.67-5.00, in average in the category of 33.2-66.3, and low in the category if they ranged between 1.00-2.33. This was determined according to the following statistical criterion:

Range = top scale - minimum score = 5 - 1 = 4

Category length = range / number of judgments = = 1.334 / 3

## 3. Results and discussion

### 3.1. What are the training needs of vocational education teachers in Jordan in the personal aspect?

The arithmetic means, standard deviations, rank and degree of need were extracted for each training needs item on the subjective side, which are summarized in Table 4.

**Table 4.** Training needs axis in the subjective aspect, arranged in descending order according to their arithmetic means

| Rank | Item | Arithmetic mean | Standard deviation | Type of degree |
|---|---|---|---|---|
| 1 | Forming professional communities that contribute to the professional development of teachers | 4.38 | 0.85 | High |
| 2 | Use tools and scientific method to determine my training needs | 4.19 | 0.67 | High |
| 3 | Acquire training skills effectively | 4.11 | 0.78 | High |
| 4 | Developing positive attitudes towards continuing education and linking it to professional practices | 4.05 | 0.69 | High |

| | | | | |
|---|---|---|---|---|
| 5 | A strategy for working effectively with others in order to strengthen human relations | 3.90 | 0.58 | High |
| 6 | Gaining positive attitudes to participate in scientific events and international programs related to professional development | 3.82 | 0.63 | High |
| 7 | Planning skills to develop my training needs according to changes and developments continuously | 3.75 | 0.60 | High |
| 8 | Developing social relations skills with parents and the local community | 3.69 | 0.52 | High |
| 9 | Time management skills | 3.52 | 0.51 | Medium |
| 10 | Skills to participate in the research field to determine the personal needs of teachers | 3.42 | 0.59 | Medium |
| 11 | Mastering research skills field for professional development | 3.31 | 0.67 | Medium |
| 12 | Acquiring the skill of following up on teachers' scientific writings and efforts in various publishing media | 3.28 | 0.81 | Medium |
| 13 | Acquiring skills for organizing group professional development activities within the school | 3.14 | 0.55 | Medium |
| | The total sum of needs training on the side self | 3.73 | 0.65 | High |

**Source:** Own elaboration.

It is clear from Table 4 that the degree of overall needs in the self-domain was high, as the arithmetic mean reached 3.73 and the standard deviation 0.65: 8 items received a high score and 5 items received a medium score. The item that states "Forming professional communities that contribute to the professional development of teachers," came in first place with a mean of 4.38 and a standard deviation of 0.85, while the item that states "Using scientific tools and methods to determine my training needs" came in second place, with a mean of 4.19 and a standard deviation of 0.67. In the penultimate place was the item that states "Acquiring the skill of following teachers' scientific writings and efforts in various publishing media" with an arithmetic mean of 3.28 and a standard deviation of 0.81. In last place came the item that stated that "Acquiring the skills of organizing collective professional development activities within the school" with a mean of 3.14 and a standard deviation of 0.55.

This result indicates the level of awareness among vocational education teachers of the importance of their training needs. Statements generally combined planning to develop these needs and were among the modern, advanced and accelerating variables and developments in the field

of Education. This is because strategies are developed in light of changes and developments in a sustainable manner. The opinions of teachers on the importance of the presence of professional learning communities contribute to the positive impact on the educational process. The student body constitutes the primary focus of the educational process, with teachers playing a pivotal role in presenting the academic material.

This dynamic contributes to the professional development of all involved, while also raising awareness among vocational education teachers of the limited accessibility of international events, such as conferences and forums, due to the substantial financial demands of participation. Consequently, the Jordanian Ministry of Education regularly organises and delivers professional development and qualification programmes for teachers, with the aim of providing them with the latest innovations in their field that have an impact on the educational landscape. These results are consistent with the findings of the study conducted by Al-Balawi & Al-Rajeh (2012), which demonstrated the necessity of prioritising the development of training and rehabilitation programmes. For teachers, the results of this study differ from those of the studies conducted by Musa (2007) and Mahapatra (2020), which revealed a moderate degree of need in the field of scientific research.

## 3.2. What are the training needs of vocational education teachers in Jordan in terms of knowledge?

As with the previous axis, the arithmetic means, standard deviations, rank and degree of need were extracted for each training needs item and summarized in Table 5.

**Table 5.** Training needs related to cognitive aspects arranged in descending order according to their arithmetic averages

| Rank | Item | Arithmetic mean | Standard deviation | Type of degree |
|:---:|:---:|:---:|:---:|:---:|
| 1 | I specify the educational difficulties facing students | 4.76 | 0.63 | High |
| 2 | Use sound and effective feedback methods | 4.70 | 0.75 | High |
| 3 | I organize lesson elements in sequential and logical steps | 4.62 | 0.61 | High |
| 4 | Possess self-evaluation skills for professional development | 4.53 | 0.72 | High |
| 5 | Possess management skills - Dialogue in the classroom changes the content of the lesson in a way that achieves the objectives of the lesson | 4.31 | 0.77 | High |
| 6 | Acquiring the skills of preparing academic content by participating with my colleagues and teachers | 4.05 | 0.50 | High |

| 7 | I design learner-centered teaching activities | 3.81 | 0.62 | High |
|---|---|---|---|---|
| 8 | Use student assessment results to plan professional development | 3.73 | 0.69 | High |
| 9 | Use various teaching strategies that match students' learning needs | 3.49 | 0.71 | Medium |
| 10 | Possess correct presentation skills that attract students' interest in the lesson | 3.31 | 0.76 | Medium |
| 11 | Presenting the scientific material according to the students' thinking levels | 3.28 | 0.58 | Medium |
| 12 | Possess skills in analyzing and interpreting evaluation results | 3.11 | 0.82 | Medium |
| 13 | Use motivation methods for students to adopt the concepts of lifelong learning | 2.87 | 0.55 | Medium |
| 14 | Specify teaching methods for treating the educational difficulties facing students | 2.30 | 0.63 | Low |
| 15 | I balanced between learning theories and learners' characteristics | 2.24 | 0.67 | Low |
| 16 | Use methods for organizing the learning environment in light of different teaching and learning theories | 2.12 | 0.82 | Low |
|  | Total for the cognitive training side | 3.57 | 0.67 | High |

**Source:** Own elaboration.

It is clear from Table 5 that the degree of the overall needs in the cognitive field was moderate, as the arithmetic mean was 3.57 and the standard deviation was 0.67, where 8 items obtained a high degree, 5 items obtained a moderate degree and 3 items had a low score. The item that stated "I identify the educational difficulties facing students" came in first place, with a mean of 4.76 and a standard deviation of 0.63, while the item that stated "Use good feedback methods" came in second place. It obtained a mean of 4.70 and a standard deviation of 0.75. The penultimate item with the lowest rank stated that "I balance learning theories and the characteristics of learners" and had a mean of 2.24 and a standard deviation of 0.67. The last rank was for the item that stated the following: "Use methods for organizing the learning environment in light of different teaching and learning theories". It got a mean of 2.12 and a standard deviation of 0.82.

This result may indicate the awareness of vocational education teachers in Jordan of the importance of training needs in treating the problems and difficulties facing students. Teachers' knowledge of the process for analyzing student results, taking into account individual differences and paying attention to those with low results contribute to helping them reach appropriate solutions that contribute to the growth and development of the educational process. This may also

be due to the Jordanian Ministry of Education adopting plans and programs that contribute to the progress and improvement of the educational process. Teachers as much as possible, and, on the other hand, the Ministry of Education bear the responsibility of continuing to provide specialized professional development programs that are appropriate to the nature of the needs of teachers, which may be based on the constitution of specialized teams for this purpose from the human resources of the Ministry of Education. These results are consistent with the ones obtained in studies of Musa (2014), Frantz et al. (2022) and Walker et al. (2020), which showed teachers' awareness of the importance of using methods for identifying training needs in their various types. Meanwhile, they differ from the results of the studies by Guerrero-Romera & Pérez-Ortiz (2022), Mahapatra (2020) and Tzafilkouet et al. (2023).

## 3.3. What are the training needs of vocational education teachers in Jordan in the performance aspect?

Table 6 summarizes the arithmetic means, standard deviations, rank and degree for this section of the instrument. It is clear from these results that the degree of the overall needs in the performance field was high, as the arithmetic mean was 4.00 and the standard deviation was 0.64, where 8 items received a high degree and only two received an average degree. The item that stated "I have the skill of designing learning objectives in its various fields and levels" came in first place, with a mean of 4.65 and a standard deviation of 0.77. On the other hand, the item that stated "I have good planning skills for teaching" came in second place, with a mean of 4.58 and a standard deviation of 0.58. Meanwhile, the item that stated "I have the skills and methods for constructing traditional and electronic tests" came in the penultimate place with a mean of 3.61 and a standard deviation of 0.72. Lastly, that item that stated "I have the ability to design and build traditional and electronic achievement files" came in last place, with a mean of arithmetic 3.58 and standard deviation 0.63.

The following results can be explained by the fact that the construction of traditional and electronic tests is of great importance in improving the evaluation process and requires more training for the sake of quality in the methods and elaboration of tests in a way that contributes to the development of the educational process. It is also clear that vocational education teachers follow learning activities based on cognitive theoretical foundations, with the developed curriculum containing linking and integration in content presentation. The latter can be explained by the vocational education curriculum in Jordan, which requires teachers to possess motor and technical skills so that teachers can present knowledge to the students in the best manner possible, which goes back to the nature of this curriculum and distinguishes it from other curricula. The results of this study are consistent with the ones obtained in the studies of Al-Sayed (2011), Guerrero-Romera & Pérez-Ortiz (2022) and Tzafilkouet et al. (2023), which revealed that there is an agreement on the importance of training on the proposed skills to deal with information technology and technological educational techniques. On the other hand, the

results of the studies by Al-Thaqafi (2013), Frantz et al. (2022) and Mahapatra (2020) showed the need for teachers to be trained on needs in the educational field, in addition to paying attention to lesson planning skills.

**Table 6.** Training needs related to performance aspects arranged in descending order according to their arithmetic averages

| Rank | Item | Arithmetic mean | Standard deviation | Type of degree |
|------|------|-----------------|--------------------|----------------|
| 1 | Possess the skill of designing learning objectives in different fields and levels | 4.65 | 0.77 | High |
| 2 | Possess good planning skills for teaching | 4.58 | 0.58 | High |
| 3 | Possess methods and tools to motivate students to learn and benefit from different educational sources | 4.42 | 0.63 | High |
| 4 | Possess the skill of designing integrated educational programs | 4.20 | 0.62 | High |
| 5 | Possess skills of interpreting teaching and learning activities in light of their theoretical foundations | 4.13 | 0.59 | High |
| 6 | Possess skills for using technology in the teaching process efficiently | 3.85 | 0.74 | High |
| 7 | I have the ability to design interactive learning activities to enhance students' communication skills | 3.74 | 0.59 | High |
| 8 | Possess content analysis skill | 3.68 | 0.56 | High |
| 9 | Possess skills and methods for building traditional and electronic tests | 3.61 | 0.72 | Medium |
| 10 | I have the ability to design and construct of traditional and electronic completion files | 3.58 | 0.63 | Medium |
| | Total for the performative training side | 4.00 | 0.64 | High |

**Source:** Own elaboration.

Finally, it can also be observed in Table 7 (that includes the arithmetic means and standard deviations for each area of teacher training needs) that the training needs of teachers in Jordan, considering recent trends in professional development are rated as high. The arithmetic average is 3.76 with a standard deviation of 0.65. In the breakdown by areas, the "performative aspect" takes the lead with an arithmetic average of 4.00 and a standard deviation of 0.64, indicating a high degree. The "self aspect" follows in second place with an arithmetic average of

3.73 and a standard deviation of 0.65, also at a high degree. The third and last place goes to the "cognitive aspect" with an arithmetic average of 3.57 and a standard deviation of 0.67, signifying a moderate degree.

This result may be attributed to the interest of the Jordanian Ministry of Education in the process of developing vocational education teachers in the motor and skill performance aspec. This may be the basis of the process of teaching the vocational education curriculum, in addition to the professional aspect of being a teacher, which is represented by the subjective aspect and may be through training programs and courses held by the Ministry. However, the cognitive aspect, whose score was average, even if it was a good and an acceptable result, institutions must be encouraged to raise its level among teachers by making them participate in courses held by the Ministry for Teachers. This way they can acquire great skill and experience by meeting with other peers and exchanging knowledge, which could reflect positively on them.

**Table 7.** Arithmetic means and standard deviations for training needs of teachers, arranged in descending order, according to their arithmetic averages

| Number | Field | SMA | Standard deviation | Class |
|---|---|---|---|---|
| 1 | Performative | 4.00 | 0.64 | High |
| 2 | Self | 3.73 | 0.64 | High |
| 3 | Cognitive | 3.57 | 0.67 | Medium |
| | Training needs of teachers as a whole | 3.76 | 0.65 | High |

**Source:** Own elaboration.

## 4. Conclusions and recommendations

After analyzing, discussing and interpreting the study results, it was concluded that the degree of the overall training needs for all fields and aspects was high, as the arithmetic mean was 3.76 and the standard deviation was 0.65. It was also concluded that the degree of the overall training needs in the personal field was high, as the arithmetic mean was 3.73, the standard deviation was 0.65. Additionally, the degree of the overall needs in the cognitive field was medium, as the arithmetic mean was 3.57 and the standard deviation was 0.67, and the degree of the overall needs in the performance field was high, as the average was arithmetic 4.00 and the standard deviation 0.64.

In view of the preceding findings, it is imperative to prioritize the identification of training requirements. For educators, this constitutes the initial phase in the formulation of effective training curricula. The necessity for technical training in the form of training programs is paramount. The implementation of ongoing training programs for education teachers is essential. In alignment with contemporary trends in professional development for educators,

the dissemination of a culture of self-professional development among education professionals is crucial. Overall, the objective of this study is to augment the training courses for education professionals, ensuring that they align with contemporary trends in teacher professional development. Furthermore, the training courses are to be adapted to meet the perceived authentic needs of education professionals.

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