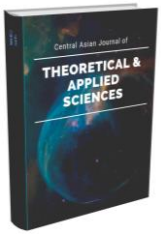

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Article

Study the Characterization of Silver Nanoparticles Synthesized Using Natural Extracts Lantana Camara

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Abstract: The current research problem is encapsulated in the following inquiries: Do teachers possess professional competence from the viewpoint of their students in vocational schools? The aim of the current research was as follows: 1- To assess the professional competence of teachers from the perspective of students in vocational schools. 2- To evaluate the professional competence of teachers from the viewpoint of students based on gender (males/females). The research defines the objective boundaries as follows: including the variables of the current research on the level of professional competence from the perspective of students. The spatial boundaries encompass vocational schools in Al-Najaf Al-Ashraf province. The human boundaries focus on a sample of morning students in vocational schools in the Directorate General of Education in Al-Najaf Al-Ashraf province, including both genders (males and females). The temporal boundaries are set for the academic year (2023-2024). The theoretical framework included previous studies on the variable of professional competence, discussing theories and previous studies, and elucidating their utility. The researchers employed the descriptive correlational method, with the research population consisting of students in the vocational stage in government schools for the academic year (2023-2024), with a total population of 539 students. The primary research sample was selected randomly and proportionally, comprising 400 students. To achieve the research objectives, the researchers constructed a professional competence questionnaire after verifying the validity and reliability indicators. The initial questionnaire consisted of 32 items, with four items being removed due to redundancy, resulting in the final questionnaire containing 28 items. The researchers arrived at the following results: It emerged that the research sample perceives their teachers to have a good level of professional competence. There were statistically significant differences in the variable of gender, favoring males.

Keywords: Professional competence, vocational stage students.

1. Introduction

Applied sciences involving nanotechnology are on the rise, which is currently improving human life. Nanoparticles are defined as particles of common particles (1-100) Nano-meters in size, and these nanoparticles (MNPs) are used in the spotlight where they can be used (Reagents, catalysts, coating agent for antimicrobial surface) ,[1,2,3] .

Metals (silver, gold, and zinc) are used in the preparation of nanoparticles; other materials can also be used, as well, and some of them. (AgNPs) are becoming increasingly popular because of their antimicrobial properties.

Several chemicals, solvents, and reducing agents are used to prepare nanoparticles (the chemical method), There are various antioxidants, such as ascorbic acid, hydrazine, trisodium and citrate sodium borohydride.. However, the chemical method has limitations, such as low yield, huge energy use, a complex refinement process, and lack

of environmental protection. As a result, efforts were directed toward finding an environmentally friendly and clean method, so silver, gold, zinc, and palladium nanoparticles were manufactured by a biological method. Nano synthesis is carried out using biological materials,[2,5,8,12].

For the synthesis of nan oparticles Minerals (MNPs) are composed of plant materials (leaves, bark, and seeds) ,[3-6,13] .

According to some researchers, chemical reduction of AgNPs is not as effective as synthesis using plant materials. ,[8,9,11]

AgNPs used as antimicrobials and antifungal· AgNPs break the wall and membrane of biological cells and the mechanism of antimicrobial activity, ,[1,3,7,13] .

It is somewhat harmful for humans to use chemical or physical methods because they require chemicals to reduce metal I nto nanomaterials. The synthesis of nanoparticles in nanotechnology uses a variety of metals, such as copper [11], zinc [12], gold [13,14] and silver [15-17]. As a result of its unique properties, silver is used in Nanotechnology and nanomedicine more often than other metals, including good conductivity and chemical stability antimicrobial activity, catalytic activity, and stability The reason for this is that eukaryotic microorganisms and bacteria can live together in harmon. [18,19]

As a nanomaterial, silver was used in the present study. Silver There are many applications for nanoparticles, especially in pharmaceutical sciences which include treatment of cancer, use to identify the compounds responsible for the reduction of silver ions to prepare them in the leaf extract *Lantana camara* for the use of environmentally friendly substances that do not affect the body of the organism,[20].

Chapter one

The problem of the Research

The management of vocational high schools, like other educational administrations, faces challenges that contribute to diminishing its achievements and reducing its participation in achieving educational objectives. It can be asserted that some of the educational problems within these institutions, such as decreased educational productivity or the emergence of violence among students and teachers, all stem from causes including weak school management or its incapacity to fulfill its duties. Therefore, focusing on vocational schools and enhancing them from all aspects is imperative, as they play a fundamental role in preparing skilled technical personnel endowed with technical skills and the capacity to comprehend technology, enabling these individuals to actively contribute to development (Mustafa, 2002:53).

The teacher is deemed the cornerstone in educational institutions, as the quality of high-quality educational outcomes relies on the quality of performance in executing the tasks and responsibilities assigned to them. Given the significance of this role, teachers must possess a set of skills, abilities, and competencies essential for the teaching profession (Abu Suwain, 2010:359).

Teaching in the twenty-first century necessitates skills that align with the nature of scientific and technological advancements, focusing on teaching the student how to learn independently to be the focal point of the educational process, thereby leading educators away from traditional methods and striving to possess proficiency in professional and educational performance (Al-Asmar, 2020:2).

These students need to enhance their abilities to diagnose and analyze problems, utilize the scientific method in making educational decisions, as well as develop their comprehensive perception of their organizations and the surrounding social, cultural, and economic environments. Moreover, there is an increasing need to build professional competence as a set of conscious and purposeful activities and measures to develop teachers' capabilities and skills to a level that enables them to carry out the educational process and achieve its objectives with high efficiency and effectiveness. Building competence serves as a plan aimed at forming educational leaders who can manage their positions with excellence and leadership (Taha, 2011:53).

On the other hand, academic striving is a distinctive indicator of goals that students seek to achieve, demonstrating their ability to succeed in academic work and social relationships, and accomplish their objectives through outstanding performance and competition across various academic and practical life situations. The ability to handle assigned tasks while maintaining the motivation that provides context through goal-directed behavior aimed at achieving a specific goal is evident (Emmons, 1988:1040-1048).

Individuals with high academic motivation are characterized by internal self-enhancement and possess the ability for self-control, strong attraction towards the task, and perseverance to accomplish it. The process of individual preparation and family upbringing plays a fundamental role in this. They tend towards competition and excellence and often have a strong internal drive for achievement and success for the sake of achievement itself, rather than for the sake of rewards or reinforcement. Conversely, individuals characterized by external regulation usually exhibit impetus towards achievement and accomplishment in order to obtain rewards and incentives, displaying less independence and self-regulation and relying more on external influences (Al-Zaghoul & Al-Hindawi, 2004:295).

Therefore, a student's success hinges on the extent of their struggle towards studying; the stronger the struggle, the higher the achievement. Conversely, a student's motivation and inclination towards achievement diminishes when their drive towards achieving their goals decreases, leading to neglect of their academic achievement. This was confirmed by a study conducted by Sheldon & Kasser (2008), which indicated that striving towards goals is positively associated with motivation, happiness, comfort, and psychological well-being (Sheldon & Kasser, 2008:43).

Despite some previous studies confirming a high level of professional competence among teachers, such as the study by Ghoneim (2021), and other studies indicating a decrease in teachers' professional competence, like the study by Abdul Aziz (2018), the current research problem is embodied in the following questions:

1. Do teachers possess professional competence from the perspective of their students in vocational schools?

The importance of the Research

The focus on vocational education is more crucial than other forms of education due to its direct and organic connection to the reality of society. It bears the responsibility of implementing and developing developmental projects and achieving social, economic, and scientific change through the scientific and applied skills possessed by its graduates. Vocational education has become a social and civilizational necessity in the modern era, as it is credited with establishing many ancient civilizations in our Arab countries that are still lagging behind. In order for vocational education to fulfill its role in achieving development plans, it is necessary to create an efficient, effective, flexible vocational education system that is linked to the needs of the labor market, accessible to all, sustainable, and capable of fulfilling its general obligations towards society.

It is imperative that vocational schools contribute effectively and significantly to achieving economic development and building productive individuals in all fields comprehensively, preparing them to shoulder responsibility, develop their abilities, and invest them optimally to serve themselves and society. The comprehensive goal of vocational education is to empower young people who have completed their secondary education and joined vocational education to develop their personalities in their physical, mental, and spiritual aspects, and to equip them with knowledge, attitudes, inclinations, and experiences that qualify them to perform tasks assigned to them according to their specialization in the scientific and production field, enabling them to contribute to building the community and creating the social and economic changes they aspire to achieve.

As a result of the evolution and renewal of educational concepts, the diversity of teaching methods, and the emergence of innovations and educational technologies and tools,

students enrolled in vocational education departments currently require more than ever sophisticated programs for continuous preparation and training. This is to enable them to keep up with various developments, acquire knowledge and skills. Teacher development programs should ensure that they are provided with the latest educational research findings in the fields of teaching and learning, as they are the cornerstone that influences the educational system. Furthermore, due to the development of vocational education curricula in light of the requirements of the labor market, efforts should be made to narrow the gap between the graduates' levels and the available job requirements. This development is based on professional competencies, enabling them to understand professional competencies or the ability to apply them in practical situations related to their vocational specialization. This will be of great importance in their professional lives, helping them solve technical problems they may encounter in their roles as teachers.

Good education is the digestion and representation of what the student has learned, not just passive reception. This requires self-activity from the student themselves, not just the teacher.

These students need to enhance their abilities to diagnose and analyse problems, and utilize the scientific approach in making educational decisions. Furthermore, they need to develop a comprehensive understanding of their organizations and the social, cultural, and economic environments surrounding them. Additionally, they should work on improving their behaviours, attitudes, and values. Therefore, the need to build professional competency is increasing, as it represents a set of conscious and purposeful activities and procedures aimed at developing teachers' abilities and skills to a level that enables them to carry out the educational process and achieve its goals with a high degree of efficiency and effectiveness. Building competency serves as a plan whose aim is to form educational leaders who can manage their positions with excellence and leadership. Educational systems require employing teachers who possess high awareness, particularly focusing on preparing them professionally. This preparation enables them to perform their duties within educational institutions in a manner that aligns with the nature of their evolving work, motivating them to strive for excellence. This, in turn, aids in guiding their students towards achieving desired goals, preparing them to face challenges and current circumstances. Therefore, it is essential to develop teacher training programs to incorporate the philosophy of competency-based learning. This may require modifications in the regulations of colleges and universities, as well as enhancements in the educational curricula. The development process should adhere to academic standards that represent competencies once adopted. It is imperative to follow a scientific methodology in incorporating these standards within the program descriptions and courses, and in developing educational content targeting the proposed competencies, considering the nature of competency and orientations.

Educational authorities emphasize the importance of building professional competency as a significant approach to achieving educational goals. This approach focuses on professionalism and proficiency in the academic performance of faculty members, contributing to the establishment of a scientific vision to achieve sustainable professional development. This effort aims to enhance current and future performance, ultimately enhancing competitive capabilities.

A study by El-Sayed (2018) points out the specific dimensions of competency requirements related to behaviour and underlying factors behind the success or failure of a particular job or set of functions. These dimensions may include knowledge, skills, behaviours, and other precisely identifiable factors. Competency requirements stem from three sources: work requirements reflecting work efficiency, the content of the job itself to determine technical or professional requirements, as well as leadership, managerial, and personal competencies, in addition to the cultural level through which an individual can work and produce.

The importance of preparing and developing teachers professionally is highlighted by the fact that the reality demands teachers who can deal with future changes. This necessitates teachers to be proficient in various competencies and skills, in addition to

specialization and the ability to address the changing needs of students in their different stages of development. Particularly, teachers in the preparatory stage deal with students aged between 16 and 18 years, where they exhibit a level of maturity reflected in more serious attitudes towards work and a focus on preparing for the future. Therefore, a competent teacher is one who provides opportunities for students to work independently and reach their own conclusions.

A teacher is a leader and guide for students to achieve their educational goals. They assist students in learning and collaborating with others to acquire knowledge and positive skills. The teacher encourages students through suitable activities to utilize their abilities in discovery, inference, and application.

The focus on professional competencies aims to overcome the challenges faced by educational institutions due to reliance on job descriptions that do not facilitate adaptation to changes and labor market needs. This is because the set of tasks included in job descriptions remains static and does not evolve despite rapid changes in the job market. Such changes require knowledge, skills, and professional values that align with these dynamics. The concept of competencies emphasizes the human element itself, highlighting the knowledge, skills, and professional values that individuals need based on the evolving environmental requirements, rather than solely focusing on the job or the work itself, disregarding the individuals performing it.

Professional competencies aim to achieve optimal results, analytical thinking, concentration, accomplishment, writing skills, flexible thinking, resource management, teamwork, team leadership, as well as building relationships, diplomacy, influence, adaptability, negotiation skills, and organizational knowledge.

Aims of the Research

The current research aims to identify the professional competency of teachers from the perspective of students in vocational schools. It specifically examines the professional competency of teachers as perceived by students, considering the gender variable (male/female).

Research Hypotheses

The following hypotheses were tested at a significance level of (α=0.05):

1. There is a statistically significant difference at a significance level of (0.05) between the average scores of students on the questionnaire regarding teachers' professional competency and the hypothetical average.
2. There is no statistically significant difference at a significance level of (0.05) between the average scores of students on the questionnaire regarding teachers' professional competency based on gender (male/female).

Li mitations of the Research

The research limitations are as follows:

1. Objective limitations: They include the two variables of the current research at the level of professional competency from the students' perspective.
2. Spatial limitations: Vocational schools in Al-Najaf Al-Ashraf Governorate.
3. Human limitations: The research is limited to a sample of morning students in vocational schools under the General Directorate of Education in Al-Najaf Al-Ashraf Governorate, including both genders (male and female).
4. Temporal limitations: For the academic year (2023-2024 AD).

Research Terminology

Professional Competency: Both Billett (2014) and Al-Husseini (2015) ،and others have defined it as follows:

1. Billett (2014) defines professional competency as "a coherent set of knowledge and skills that can be used in real performance contexts. Professionals are characterized by their ability to act responsibly and effectively according to specific performance standards. Therefore, they are described as possessing the necessary and sufficient competencies to perform the work."
2. Al-Husseini (2015) describes it as "the capabilities, knowledge, and skills that enable an individual to perform outstandingly compared to their peers in the same field, enhancing their organization's ability to compete locally and globally."
3. Mahmoud (2021) views professional competency as "the general, integrated, internal ability to deliver sustainable effective performance, including problem-solving, innovation, and transformative impact in a specific professional field. Competency consists of a range of different skills. Competency is part of overall efficiency."

The theoretical definition of professional competency is that researchers define it theoretically as a set of accumulated experiences that include knowledge, abilities, and skills that faculty members must possess and employ to efficiently and effectively perform their assigned tasks at a high level of excellence, surpassing superior levels of performance.

The procedural definition of professional competency is the total score obtained by respondents on the professional competency scale prepared by the researchers to achieve the objectives of the current research.

Chapter Two: A theoretical framework and previous studies:

Firstly: the concept of "competencies" in Arabic: The term "competencies" in Arabic is derived from the root word "jadara," which means deserving or worthy. It signifies the capability, competence, or worthiness for a particular position. For example, one becomes deserving and suitable for a position. The term "competency" or "competent" in English has been used interchangeably with efficiency, skills, knowledge, and experience. Despite these varied meanings, the most common translation of the word "competency" in business and human resources is "competency" (Abdulaziz, 2016:1).

Competencies in terminology have been defined in various ways, including as any knowledge, skill, ability, attitude, behavior, or personal trait that can be observed and measured, necessary for the practice of a job or function, contributing to the enhancement of job performance (Ismail, 2013:2).

Yeri (Arab, 2015) states that competencies are a set of common characteristics that distinguish the outstanding from the ordinary in performing a specific job, or they are a set of common characteristics according to the required levels for performing each job based on the frequency and importance (Arab:2015:4).

The definition by Abdulaziz (2016) does not differ much from the previous definition, as he sees competency in its broad sense including scientific and practical knowledge, acquired skills, abilities, and personal characteristics, all of which are required to carry out tasks that are part of a mission or a function.

(Jardat, 2016) mentions that the term "competencies" emerged clearly in 1073 AD by David MacLelland. Then this concept was widely used by writers, meaning for most of them a collection of knowledge, skills, and attitudes, or the ability to perform efficiently, as well as the ability to respond to various changes (Gardat, 2016: 3-5).

Definition of Profession:

The term "profession" is derived from the word "occupation," which is the source of professions and the plural of profession. It refers to work that requires experience, skill, and precision in its practice (Ibn Manzur, 2005: 888).

Taylor, as referenced in Abdul Hamid (2008), sees a profession as "an activity linked to the labor market aimed at satisfying individuals' basic needs. This professional activity determines the social status of the individual." Therefore, a profession is one of the most important distinguishing factors in social and economic life, uniting individuals of the same profession with a certain degree of solidarity, cooperation, and harmony. Richard Hall believes that a profession is "the defining element of an individual's status in society" (Abdul Hamid, 2008: 144).

As for the term "profession" in technical jargon, it has multiple definitions. For instance, Pavalco defines a profession as "social roles linked to individuals' status in the local community." According to Pavalco, a profession is the link between individuals and social structures through the social roles that define the pattern of social relationships among members of professional groups (Pavalco, 2009: 3).

The concept of professional competencies can be comprehensively discussed from two perspectives after attempting to review the meanings of the two words that make up the term "professional competencies," namely: "competencies" and "professionalism," both in language and terminology.

Firstly, the general concept of professional competencies can be defined as a "specified level of skills required for one's work permit, enabling the individual (the teacher) to perform the activities and tasks of their work. The individual is considered competent when they achieve a level of efficiency that can be realized in the work environment" (Al-Hakami, 2004: 21).

Kurdi (2013) perceives professional competency as "a set of positive factors that make a suitable individual worthy of working in the right place. These factors include personal characteristics, some acquired through practical experience, and have a direct and indirect impact on the efficiency and effectiveness of both work, employees, and clients" (Kurdi, 2013: 2).

On the other hand, Arab (2015) defines it as "the correct performance of work, in the right manner, by the right person, and at the right time" (Arab, 2015: 5).

Jardat (2016) defines it as "the ability to perform efficiently within the work environment, as well as the ability to respond to numerous challenges within the work environment" (Jardat, 2016: 3-5).

Shatwi (2017) views professional competency as "a set of knowledge, skills, values, and attitudes possessed by the employee, which come together to shape a specific behavior required to perform a set of job tasks efficiently and effectively. Renewing knowledge, developing skills, and adhering to constructive values and suitable attitudes for the organization are fundamental to the continuous enjoyment of professional competency by the employee" (Shatwi, 2017: 5).

Regarding the concept of professional competencies for teachers, it holds various meanings, including that they are "a set of abilities and the resulting knowledge, skills, and attitudes possessed by the teacher, enabling them to perform their work, roles, and responsibilities within the educational environment. It encompasses all the capabilities and skills that facilitate the teacher in achieving the desired objectives" (Managieri Arnn, 2011: 10).

Types of professional competencies

Firstly, the categorization of professional competencies varies according to the perspectives of organizations, the nature of professions and specializations, and the needs of society. The concept of types of professional competencies aims to identify the axes around which professional competencies revolve.

- **The first competency: Lesson Planning**

Lesson planning is considered one of the most crucial tasks performed by a teacher. It aids in preparing the teacher mentally and emotionally for what they will undertake within the classroom, providing an opportunity for mastery of their subject matter and how to address the inquiries that students may raise in a manner that achieves the desired objectives (Al-Halabi, 2003: 59).

- **The second competency: Teaching Implementation**

The competency of teaching implementation plays a vital role in a teacher's performance in the educational process, and the extent of the teacher's mastery of this competency can determine the success of the educational process with all its components. The skills of teaching implementation, in general, work towards initiating and facilitating learning, evolving through training and experience. They constitute a set of cognitive, motor, and social behaviors that the teacher engages in with the aim of achieving specific goals (Muwadd, 2016: 70).

In his work, Ismail (2013) categorized professional competencies into two fundamental types:

A- Core Competencies: These competencies are based on the goals, values, and culture of the organization. They can be described as all the qualities, behaviors, skills, and abilities necessary for success in all positions within the organization. They are linked to the organization's values, goals, and strategic plan, existing in all positions but to varying degrees. Examples of core competencies include:

- Ability to motivate others
- Ability to build relationships
- Ability to lead change
- Ability to develop others' performance
- Integration
- Analytical thinking skills
- Ability for strategic thinking
- Result-oriented focus
- Quality service delivery
- Precision in service delivery (Ismail, 2013: 6).

B- Job-Specific Competencies: These refer to the personal skills and abilities necessary to perform a specific job within the organization. There are competencies for a

managerial position, another for an administrative role, and yet another for a laborer position, and so forth. Examples of job-specific competencies include:

1- Communication with others
2- Flexibility
3- Data analysis skills
4- Responsibility and independence
5- Job excellence
6- Opportunity searching
7- Team leadership (Ismail, 2013: 6).

Arab (2015) divided competencies into two general categories:

1- Visible Competencies. These are the qualities that are easy to acquire and measure, and are divided into:

- Information and knowledge required to be present in a person about a specific field or specialization.
- Skills and abilities that a person possesses to be able to perform a mental or physical task.

2- Latent capabilities. These are the qualities that are not immediately apparent, but emerge in a person when they perform specific tasks for a long period of time. They can be divided into:
- Social concepts: This refers to a person's view of society and their role within it.
- Personal concepts: These are the principles, values, and firm beliefs of a person that they find comfort in and revolve around.
- Self-traits: These are the personal characteristics of an individual, such as how they manage their emotions, their thought process, and their working mechanism.
- Motivations: These are the deep-seated incentives within an individual's personality that drive them to perform a certain action or initiative. (Arab, 2015:5).

Secondly, the classification of professional barriers
There are numerous and diverse barriers that should be present in a teacher, varying among them. The most prominent of these barriers can be identified in light of a survey of several educational studies and research that have addressed the barriers, competencies, or skills required by the teacher. The barriers that should be present in the teacher are as follows:
1- Barriers of creativity and innovation, which are achieved through supporting and developing students' capacity for creative and critical thinking, and building, developing, and producing innovative ideas using digital technology.
2- Technological and communicative barriers relate to the teacher's ability to use technological means in educational, research, and administrative processes related to the ability to work in the digital environment, manage knowledge and share it, exchange experiences and knowledge, and deal with knowledge collection, organization, dissemination, and circulation.
3- Research and information handling barriers require the application of the mind and the use of critical thinking to plan and manage activities to develop solutions to specific problems or complete a project, or make correct decisions, by using multiple processes and diverse perspectives to explore alternative solutions to address project failures.
4- Cognitive and specialized barriers require carrying out a variety of activities, including scientific research, technological development, creativity, and innovation, activities that must be multiplied in all sectors, especially education, in order for their outcomes to align with the requirements of the national economy.

5- Entrepreneurial barriers vary in entrepreneurial skills to include technical and business management skills, as well as personal skills such as commitment, monitoring, communication ability, knowledge of technology, organizational skills, relationship and network building, teamwork, goal setting, planning, marketing, negotiation, risk-taking, seizing opportunities, and the ability to drive change.

Thirdly, The Importance of Professional Boundaries in the Educational Process

Abdelkawy (2018) emphasizes the great importance of professional barriers in the educational process, which can be elucidated as follows:

1- Strengthening the relationship between education and work and meeting the requirements of the labor market, thereby increasing students' employment opportunities and reducing their unemployment rates.

2- Enhancing students' motivation and encouraging them to actively participate in the learning process.

3- Utilizing barriers as realistic foundations for assessing students, where evaluation criteria are established based on them.

4- Equipping students for the workforce and life in general, as they encompass two types of barriers: general or interdisciplinary barriers, and technical barriers.

5- Connecting knowledge, skills, and emotional aspects in each individual, thus achieving integration between theoretical and practical applied aspects.

6- Achieving continuous self-directed learning and learning for mastery.

7- Assisting students, teachers, employers, and decision-makers in understanding the skills, knowledge, and behaviors that should be possessed by students in various educational disciplines upon completing their university studies. (Abdelkawy, 2018: 162-163)

Fourthly, Methods of Identifying Professional Boundaries

Rashidi Taamia refers to several methods for identifying boundaries, including:

- Translation of the course content into general objectives, then formulation into general and specific boundaries that should be possessed by the teacher assigned to teach these courses.
- Task analysis, which refers to the detailed description of the teacher's roles, followed by the translation of these roles into boundaries to be trained on.
- Adopting an educational theory as a basis for deriving the boundaries that the teacher is expected to possess, provided that these boundaries align with the principles of the educational theory and the framework adopted by this theory for the educational process.
- Reviewing boundary lists: This method relies on pre-existing lists that include predetermined educational and professional boundaries from previous studies, with selections made to align with the program's foundations and objectives (Katch, 2001: 70), and (Taamia, 2006: 32).

Additionally, Salah Eldin et al. (2007) specify the necessary teaching skills according to a set of steps and criteria for the required professional boundaries as follows:

- Inclusivity of teaching skills in all boundaries related to the teaching process.
- Formulating teaching skills in a performance-based manner indicative of measurable educational outcomes.
- Simplicity and clarity in the verbal formulation of teaching skills.
- Categorizing teaching skills into three major boundaries, each encompassing a set of key skills, with each set including the necessary sub-teaching skills for the teacher (Salah Eldin et al., 2007: 96).

Fifthly, Characteristics of professional boundaries:

Nessipbayeva (2012) elucidates a set of characteristics that define professional boundaries, which can be expounded as follows:

A. The inherent property

For the individual, it signifies that competence is deeply rooted in the individual's character sufficiently. It refers to ways of behaving through various situations, and competencies are characterized by their stability over a long period of time. The implicit property of competence includes five subsidiary characteristics, which are:

1- Motivations: These are the things that an individual constantly thinks about and that lead them to take a certain action; thus, they are responsible for choosing, guiding, and directing behavior towards specific actions and goals.

2- Attributes: These refer to the physical characteristics and consistent response to circumstances or information.

3- Self-concept: This pertains to an individual's orientations or self-values; it represents reflected motives or responses that can predict what a person will do in the near future in situations where responsibility lies with others.

4- Knowledge: This consists of the information that a person possesses in a specific cognitive domain.

5- Skill: This is the ability to perform a mental or physical task, including mental competencies such as analytical thinking, information and data processing, cause and effect identification, data organization, planning, and holistic thinking.

B. Causal relationships

This means that competence can predict the future behavior and performance of individuals, as competencies of attributes, motivations, and self-concept can predict behavioral actions of skill, which in turn predict the results of task performance. Competence always encompasses a goal it strives to achieve, which is the driving force or power of the attribute causing behavior towards a certain outcome. For example, competencies of knowledge and skills always include a quality, a drive, or a self-concept that serves as the main driving force for the information or skill being utilized. Thoughts may be part of action-based behavior, as thinking precedes behavior and predicts motivations.

C. The standard reference

means that competence can predict whether an individual is proficient or not in performing a certain task, based on a specific standard or criteria. It contributes to selecting the suitable individual for the appropriate task. Therefore, the standard reference is of utmost importance in defining competence. An attribute is not considered competence unless it predicts something meaningful in the real world. A trait or certification that does not lead to progress and excellence in performance is not competence and should not be used to evaluate individuals. The most commonly used criteria in competence studies are

- Superior performance: Statistically defined as one standard deviation above average performance, it is roughly equivalent to the level achieved by the top performer among ten individuals in a specific field of work.
- Adequate performance: Signifying the minimum acceptable level of work, or the minimum threshold below which an individual's performance would no longer be considered competent in accomplishing this task.

The theoretical frameworks explaining professional competence

1.The Craig theory

refers to an individual's ability to perform a specific job appropriately. Competencies are a set of known behaviors that form an organized guide to enable the recognition, assessment, and development of an employee's behaviors. This term first appeared in an article in English by the author R. W. White in 1959 as a theory of performance motivation. Later, in 1970, Craig Lundberg defined the theory as "planning for executive development programs." The term gained popularity in 1973 when Dr. David McClelland wrote a research paper titled "Testing for Competence Rather Than Intelligence," and since then, the term has been widely used, especially when employees of what is now known as MacBir & Company, currently Group, and others like T.F. Gilbert (1978) used the theory in relation to performance improvement. It is widely used, leading to occasional misunderstandings.

Some researchers view competence as a combination of practical and theoretical knowledge, cognitive skills, behavior, and values used to enhance performance, or the state or quality of being sufficiently qualified and possessing the ability to perform a specific role. For example, managerial competence may include analytical thinking, emotional intelligence, influencing skills, and negotiation skills. Competence is sometimes believed to represent a specific activity in a particular situation and context, which may vary the next time someone acts in an emergency.
(Collin, 1989: 6-18)

Bandura's theory:

emphasizes the presence of two types of expectations related to self-efficacy theory, each with its strong effects on behavior: expectations regarding self-efficacy and expectations related to outcomes. Regarding expectations associated with self-efficacy, they involve an individual's perception of their ability to perform a specific behavior. These expectations can help individuals determine whether they are capable of engaging in a certain behavior with hope for a specific task. They also determine the amount of effort required from the individual to perform this behavior and identify to what extent their behavior can overcome the obstacles present in this task (Abdulaziz, 160:2010).

The second type, which is expectations regarding outcomes, entails the belief that results can arise from engaging in specific behaviors. The clear relationship between outcome expectations and determining appropriate behavior for a particular task is evident, while self-efficacy expectations are distinctly linked to predicting an individual's future actions (Al-Otaibi, 2007:26).

Outcome expectations take three forms, where positive expectations act as incentives while negative expectations act as obstacles as follows:

1.The physical and negative effects accompanying behavior, including pleasant sensory experiences, pain, and physical discomfort.

2.The negative and positive social effects, where positive effects include social interaction with others, such as expressions of attention, approval, social appreciation, material compensation, and granting of authority, whereas negative effects include lack of interest, disapproval, social rejection, criticism, deprivation of benefits, and imposition of penalties.

3.Positive and negative reactions to self-assessment of individual behavior, as social estimation, praise, honor, and personal satisfaction lead to superior performance, while the expectation of disappointment from others, loss of support, self-criticism results in a low level of performance (Al-Otaibi, 2007, 27).

Beliefs related to self-efficacy in thinking processes either assist or hinder individuals. Those with a strong sense of self-efficacy focus their attention on problem analysis and attempt to find appropriate solutions. Conversely, individuals who doubt their self-

efficacy turn their attention inwards and immerse themselves in worries when faced with challenging environmental demands. They are concerned with aspects of inadequacy and personal ineffectiveness, envisioning their failure leading to negative outcomes (1998:43, Bandura).

This type of negative thinking generates tension and pressure, limiting the effective use of cognitive abilities by diverting attention from how to meet requirements in the best possible way to arousing anxiety about personal inadequacy and the possibility of failure (1986:211, Bandura & Wood).

Studies addressing professional competence

1. Ahmed' study (2018): aimed to identify the professional competencies of academic department heads as the main drivers towards achieving the goals of academic departments and realizing the university's vision and mission through various scientific specializations. The study utilized a descriptive-analytical methodology, relying on a survey that was administered in two rounds using the Delphi Technique to a sample of 100 male and female faculty members from some theoretical and practical colleges at Assiut University. The study concluded by proposing a conceptual framework for the most important professional competencies required for academic department heads at Assiut University in light of both theoretical and field frameworks (Ahmed, 2018).
2. Abdulaziz' study (2019): aimed to identify the necessary professional competencies for accredited external reviewers of public schools in Egypt in light of some international experiences. The study adopted a descriptive approach and concluded by proposing a conceptual framework that includes a list of 139 professional competencies that should be possessed by accredited external reviewers in public schools. These competencies were derived based on some international experiences and the results of the field study, distributed across five categories: values competencies, administrative competencies, human competencies, technical competencies, and academic competencies, while also identifying the most important competencies when selecting external reviewers and the most important competencies when training them (Abdulaziz, 2019).

3.Ghoneim'study (2021): aimed to utilize the approach of competencies to address the obstacles of using digital learning applications in universities in light of the repercussions of the COVID-19 pandemic. The study employed a descriptive methodology and a survey tool, which was administered a sample of 130 faculty members at Damietta University. The study concluded by identifying the necessary digital competencies for faculty members, including competencies related to digital education culture, design and production of digital learning resources, design of electronic courses, management of virtual learning environments, evaluation of digital educational situations, and ethics of digital education (Ghoneim, 2021).

4.The study conducted by Wafiq and Morad (2021): aimed to assess the academic, technological, intellectual, personal, and human barriers acquired by student teachers at Damietta University during their university studies, in light of the needs of the labor market. The researchers utilized a descriptive methodology and a survey tool. The study found no statistically significant differences in the responses of the study sample regarding the academic, technological, intellectual, personal, and human barriers acquired by student teachers at Damietta University attributed to gender. However, differences were observed in the average scores of the study sample's responses towards digital technological barriers. The study concluded with a set of recommendations to enhance the acquisition of necessary competencies for student teachers in teacher preparation colleges at Damietta University to excel in their professional lives (Wafiq & Morad, 2021).

5.The study conducted by Ahmed (2022): aimed to identify the key functional barriers necessary for public school teachers in Egypt to implement e-learning, and to uncover the relationship between functional barriers and e-learning. The study employed a descriptive methodology and utilized a survey as a data collection tool. It was administered to a sample of 148 experts from faculty members of education colleges in Egyptian universities. The study's results indicated a high response rate on all survey axes, as well as on its three sub-axes. Furthermore, the study proposed a conceptual framework including the functional barriers necessary for public school teachers to im plement e-learning (Ahmed, 2022)

Chapter Three: Research Methodology and Procedures

Firstly, the current Research

aims to explore the relationship between teachers' professional competence and its impact on their students' academic achievement in vocational schools. Therefore, the appropriate methodology to achieve the objectives of this study is the correlational descriptive research method, which is defined as assessing the degree of alignment between the study variables and whether an increase or decrease in one is related to an increase or decrease in the other (Sulaiman, 2014:86).

Secondly, the research population

refers to all individuals in the community who constitute the subject of the research problem or all elements related to the research problem that the researcher seeks to generalize the research results to (Abdullah, 2012:47). The current research population consists of male and female students in vocational schools, totaling 539 students, studying in the morning sessions in various branches including industrial, agricultural, commercial, applied arts, tourism, and computer science and information technology, in Al-Najaf Al-Ashraf Governorate for the academic year 2023-2024.

Table 1: Total Population of Students by Branch and Gender

The Total			Branch
the total	Females	Males	
298	76	213	Industrial
13	0	13	Agricultural
61	22	39	Commercial
28	28	0	Applied Arts
23	1	22	Tourism
125	28	97	Computer and information technology
539	155	384	The Total

Thirdly, the Research sample

The primary research sample was selected at a rate of (74.21%) of the original population, consisting of (400) teachers. They were chosen using proportional stratified random sampling, based on the following criteria: (sample clarity of instructions - sample for statistical analysis - sample stability). The researchers relied on scientific criteria and the opinions of several experts in selecting these samples. As for the primary sample, it was chosen based on the recommendation of Krejeie & Morgan (1970), where the sample

size was determined in relation to the population size (Krejeie & Morgan, 1970: 607) as illustrated in Table 2.

Table 2: provides further clarification on this matter

The Total			Branch
the total	Females	Males	
214	56	185	Industrial
10	0	10	Agricultural
45	16	10	Commercial
21	21	0	Applied Arts
17	1	16	tourism
93	21	72	Computer and information technology
400	115	285	The Total

Fourthly, Research Instrument

The research instrument serves as a means to acquire the necessary data related to the research topic. It encompasses the methods through which information and data pertinent to the research are gathered, aiding in the study and analysis of the research problem to reach conclusions (Latad, 2019: 66). Given that the current research aims to investigate the professional competence level of teachers in vocational schools, the construction of this instrument necessitates the development of a Professional Competence Questionnaire. This tool was constructed following the steps below:

The first tool. Professional Competence Questionnaire

The questionnaire is defined as "one of the data collection methods, which includes a set of questions aimed at obtaining responses from the sample individuals, reflecting their opinions, preferences, and attitudes towards the research topic" (Bahi, Mona, 2006: 88).

Due to the unavailability of a suitable tool for the nature of the current research sample (to the best of the researchers' knowledge), the Professional Competence Questionnaire was developed following the following scientific steps:

1- Questionnaire Objective: The purpose of defining the questionnaire objective is to enhance precision and clarity. This questionnaire aims to assess the level of professional competence among the teaching staff from the students' perspective in vocational schools, based on the operational definition of this variable. It involves

2. Theoretical Foundations for Questionnaire Construction: The logical method (literature and previous studies) was relied upon in studying both Ahmed (2018) and Abdulaziz (2019), as well as the experiential method (expert opinions) in the procedures of constructing the questionnaire. The type of measurement used is standard psychometric, which involves comparing the respondent's score with the group to which they belong. It is characterized by objectivity and the potential to achieve its validity and reliability (Al-Jalabi, 2005: 64).

The narrative statements method was utilized in constructing the questionnaire items, as it is one of the most commonly used methods in educational and psychological assessments, with the ability to be used with a large group of respondents in less time and effort (Omar et al., 2009: 167). The researchers also relied on the Likert method of

measurement, which involves presenting a set of statements to respondents, each with contrasting alternatives. Respondents are asked to choose the alternative that best represents their opinion. Five alternatives were provided for each statement, namely (Strongly Agree - Agree - Neutral - Disagree - Strongly Disagree), based on the Likert scale with five response alternatives. The weights (5-4-3-2-1) were assigned to positive statements, and (1-2-3-4-5) to negative statements. The overall questionnaire score for each respondent is calculated by summing the scores of the alternatives chosen for each questionnaire item.

3.Questionnaire Item Construction: The questionnaire items were developed through a survey study using an open-ended questionnaire distributed to a random sample of vocational school students in Al-Najaf Al-Ashraf province, totaling 30 male and female students. The questionnaire included questions related to the professional competence variable. The responses were collected and transformed into items (see Appendix 2). Survey studies are considered essential procedures in the construction of educational and psychological measures and questionnaires, where open interviews are conducted with individuals assumed to have knowledge about the research variable (Zaytoun, 2009: 86). They were also interviewed and briefed on the research objectives to obtain additional items for the scale. The interview is a crucial tool for gathering information, as it places the researcher in direct contact with the source of information, enabling the collection of important, detailed, and clear insights (Dawood & Abdulrahman, 1990: 100). Furthermore, a review of relevant literature and previous studies, such as the works of Ghaneem (2021) and Ahmed (2022), was conducted to select additional items for inclusion.

4- Number of Questionnaire Items: After reviewing various measures and related questionnaires, consulting with experts in the fields of educational and psychological sciences, and based on the aforementioned procedures, the initial number of questionnaire items amounted to 32 items.
Fifthly, Psychometric Properties:
The psychometric properties of the questionnaire were verified following the steps below:
Fifthly, Psychometric Properties:
The verification of the psychometric properties of the questionnaire was conducted according to the following steps:

- Questionnaire Validity

The validity of the professional competence questionnaire was verified by extracting the following types of validity:
A- Face Validity: One important method to assess the validity of a questionnaire is to have experts evaluate the extent to which the items represent the trait being measured (Ebel, 1972: 555). Obtaining feedback from experts to improve the questionnaire is referred to as face validity. To achieve this, the researchers presented the professional competence questionnaire to a group of experts in the fields of educational and psychological sciences (see Appendix 45). The questionnaire, in its initial form, consisted of two sections: the first section included the questionnaire's purpose and variable definition, while the second section contained the questionnaire items. The researchers asked the experts to provide their opinions on the validity of the questionnaire items, and a criterion was set to evaluate each item as either "valid," "invalid," or "requires modification." A specific level of agreement among the experts, set at 75%, was relied upon. Bloom indicated that an agreement rate of 75% or higher among experts is evidence of achieving face validity (Bloom et al., 1983: 126). Additionally, a Chi-Square test was employed, revealing that the calculated values for all items exceeded the critical value of 3.841 at a significance level of 0.05 with 1 degree of freedom. Table 3 illustrates the

percentage of agreement among experts and the Chi-Square values for the professional competence questionnaire.

Table 3: presents the percentage of arbitrators' agreement and the values of Kappa (κ) for the professional competence questionnaire.

The level of significance (5.05)	The tabulated critical value of (Ka2)	The calculated critical value of (Ka2)	Number of opponents	percentage	Number of approvers	Number of arbitrators	Paragraphs
function	3.842	26. 13	1	97٪	29	30	6-7-8-19-20-21-22
function	3.842	22.53	2	93٪	28	30	5-9-14-15-16-17-18-23-24
function	3.842	19.20	3	90٪	27	30	4-10-25-26-31
function	3.842	16.13	4	87٪	26	30	1-2-3-25-26-30
function	3.842	10.80	6	80٪	24	30	11-13-27-28-32

The researchers sought the opinions of the arbitrators to amend some items while retaining others. The final version of the questionnaire comprised 32 items before statistical analysis. Following the aforementioned procedures, instructions for responding to the questionnaire were formulated, along with the demographic information of the respondents (males and females). Anonymity was requested to ensure that responses are solely used for scientific research purposes and remain confidential. An illustrative example was provided to clarify the response process, emphasizing the importance of carefully reading all items and selecting the appropriate response. A pilot survey was conducted on a random sample of vocational school students in Al-Najaf Al-Ashraf province, totaling 20 students, confirming the clarity of the questionnaire instructions.

The researchers verified the construct validity through the method of internal consistency and the split-half method, as follows:

Internal Consistency: Internal consistency refers to the degree to which questionnaire item scores are consistent with each other in measuring the same variable (items and total score). Items with non-significant correlation coefficients are removed due to lack of homogeneity. The researchers assessed the internal consistency of the professional competence questionnaire by calculating correlation coefficients using the Pearson correlation coefficient and the statistical software SPSS. The correlation coefficients between each item score and the total score of the questionnaire ranged from 0.531 to 0.229. It is evident that the calculated correlation coefficients are higher than the critical value of 0.113 at a significance level of 0.05 and degrees of freedom of 299. The statistical significance level (error rate) for all items is less than 0.05, indicating that all items are statistically significant, except for items 4, 12, 16, and 28, with calculated correlation coefficients of 0.065, 0.085, 0.046, and 0.052, respectively, which are lower than the critical value. The statistical significance level for these items is higher than 0.05, indicating that these items are not statistically significant, as illustrated in Table 4:

Table 4: Correlation coefficients for each item score with the total score of the professional competence questionnaire.

Correlation coefficient	T	Correlation coefficient	T	Correlation coefficient	T
0.416	**23**	0.085	**12**	0.395	**1**
0.406	**24**	0.254	**13**	0.376	**2**
0.469	**25**	0.460	**14**	0.411	**3**
0.3 89	**26**	0.337	**15**	0.065	**4**
0.426	**27**	0.046	**16**	0.361	**5**
0.052	**28**	0.424	**17**	0.413	**6**
0.471	**29**	0.425	**18**	0.457	**7**
0.404	**30**	0.421	**19**	0.407	**8**
0.307	**31**	0.296	**20**	0.407	**9**
0.307	**32**	0.229	**21**	0.421	**10**
		0.312	**22**	0.531	**11**

*At a significance level of 0.05 and with 299 degrees of freedom, compared to the tabulated value of 0.133

B.1.The two extreme groups

Based on the same statistical analysis sample data, the total scores of the respondents were extracted and arranged in descending order. A percentage of 27% of the responses that received the highest scores were selected to represent the upper group. The number of responses in this group was 81, with scores ranging from 118 to 147. Similarly, a percentage of 27% of the responses that received the lowest scores were chosen to represent the lower group. The number of responses in this group was also 81, with scores ranging from 72 to 100. The total number of responses in both groups was 162 out of a total of 300 responses. The researchers utilized the independent samples t-test using the statistical package (SPSS) to extract the discriminatory power of the items in the professional competence questionnaire. By testing the differences between the means of the two extreme groups, the calculated t-values ranged from 4.023 to 9.678. Consequently, all items exhibited discriminatory power (statistically significant) as these values exceeded the critical t-value of 1.97 at 160 degrees of freedom and a significance level of 0.05. It is noteworthy that the statistical significance level of all calculated t-values is less than 0.05, except for the same items (4, 12, 16, 28) where their calculated t-values (0.948, 1.745, 0.193, 0.634) indicated no statistical significance. These items lacked discriminatory power as their values were lower than the critical t-value. Furthermore, the statistical significance level of the calculated t-values for these items is greater than 0.05, as illustrated in Table 5:

Table 5: Discriminatory Power of Items in the Professional Competence Questionnaire

Sig. (2-tailed)	The value of computability (discriminative power)	Minimum group		Senior group		Paragraphs
		The standard deviation	The arithmetic mean	The standard deviation	The arithmetic mean	
.000 Discriminatory	6.386	1.070	3.41	.777	4.35	1
Discriminatory 000	5.793	1.242	3.60	.726	4.53	2
Discriminatory 000	6.116	1.156	2.63	1.330	3.83	3
Not Discriminatory3.44	.948	1.210	2.38	1.274	2.57	4
Discriminatory 000	6.743	1.264	3.43	.743	4.53	5
	7.368	1.439	2.59	1.147	4.10	6
Discriminatory 000	8.506	1.260	2.99	.865	4.43	7
Discriminatory 000	6.908	1.170	3.14	.983	4.31	8
Discriminatory 000	7.783	1.184	2.85	.872	4.12	9
Discriminatory 000	7.908	1.321	2.68	1.070	4.17	10
Discriminatory 000	8.612	1.199	2.16	1.246	3.81	11
Not Discriminatory 0.67	1.745	1.226	2.81	1.401	3.38	12
Discriminatory 000	4.945	1.255	2.98	1.191	3.93	13
Discriminatory 000	9.048	1.203	2.95	.785	4.40	14
Discriminatory 000	4.439	1.480	3.38	.985	4.26	15
Not Discriminatory 8.89	.139	1.070	2.32	1.185	2.35	16
000 Discriminatory	7.563	1.268	2.64	1.094	4.05	17
Discriminatory 000	8.181	1.295	2.49	1.055	4.01	18
Discriminatory 000	7.724	1.122	2.12	1.273	3.58	19
Discriminatory 000	5.500	1.346	2.99	1.066	4.04	20
Discriminatory 000	4.108	.927	2.06	.985	2.68	21
Discriminatory 000	5.156	1.343	3.52	.820	4.42	22
Discriminatory 000	6.327	1.326	2.94	1.012	4.11	23
Discriminatory 000	6.694	1.370	2.51	1.281	3.90	24
Discriminatory 000	8.274	1.487	2.84	.749	4.37	25
Discriminatory 000	6.286	1.358	3.14	.895	4.27	26
Discriminatory 000	6.435	1.260	3.01	1.104	4.21	27
Not Discriminatory 5.27	.634	.997	2.07	.985	2.17	28
Discriminatory 000	9.678	1.386	2.32	1.022	4.17	29
Discriminatory 000	6.608	1.119	3.19	9.16	4.25	30
Discriminatory 000	4.023	1.371	3.72	8.80	4.44	31
Discriminatory 000	4.866	1.316	3.64	8.23	4.48	32

The questionnaire's reliability, refers to the consistency of results over time and the accurate representation of the entire study population. It indicates whether the study results can be replicated under similar methodology, and the research instrument can be relied upon (Golafashani, 2003:598). The researchers utilized various methods to extract reliability, as follows:

A-Split-Half Reliability

The questionnaire was administered once to a stable sample of 80 randomly selected students. The researchers then divided the questionnaire items into two halves during correction, one containing the odd-numbered items and the other containing the even-numbered items. This resulted in two scores for each respondent, which were then compared. This method, known as split-half reliability, calculates reliability. Calculating the correlation coefficient between the two halves of the questionnaire provides reliability for half of the questionnaire. This can be corrected using the predictive correction equation proposed by Spearman-Brown (Abu Hatab et al., 2008:146). The questionnaire on professional competence was administered to a random sample of 80 students to calculate the split-half reliability coefficient. Using the statistical package (SPSS), the questionnaire's reliability was found to be 0.725, which was adjusted to 0.841 using the Spearman-Brown equation. This indicates good reliability, as suggested by Al-Nabhani

(2004), who considers a reliability coefficient of no less than 0.67 to be good (Al-Nabhani, 2004:240), as illustrated in Table 6.

B-Cronbach's Alpha Method

The reliability of the professional competence questionnaire was calculated using the Cronbach's Alpha method through the statistical package (SPSS). The overall reliability coefficient of the questionnaire was found to be 0.775, as shown in Table 6.

C- Test-Retest Method

The professional competence questionnaire was re-administered to the same random sample of 80 students, with a two-week interval between the first and second administrations. It is preferable for the time period between the first and second administrations of the questionnaire not to exceed two to three weeks (Adams, 1966:85). The researchers calculated the correlation coefficient between the scores in the first and second administrations to determine the scale's reliability, using the Pearson correlation coefficient through the statistical package for social sciences (SPSS). The reliability coefficient was found to be 0.801, indicating a very good indicator of the stability of individuals' responses in the sample on the professional competence questionnaire, as shown in Table 6.

Table 6: Reliability Coefficients for the Professional Competence Questionnaire using the Test-Retest Method and Cronbach's Alpha

The Professional Competence Questionnaire		
The method of Cronbach's alpha.	The method of retesting	The method of binary partitioning.
0.775	0.801	0.841

5.The final version of the professional competence questionnaire is described and corrected, and the total score is calculated as follows

The questionnaire on professional competence consists of (28) items formulated in a verbal report style with graded options (five-point scale) as follows: (5) points for strongly agree, (4) points for agree, (3) points for neutral, (2) points for disagree, and (1) point for strongly disagree. In negative items, the scoring is reversed: (1) point for strongly agree, (2) points for agree, (3) points for neutral, (4) points for disagree, and (5) points for strongly disagree. The highest score on the scale was (140) and the lowest score (28), with a hypothetical mean of (84), making it suitable for application.

The first objective: To assess the level of professional competence among faculty members from the perspective of students in vocational schools. The researchers achieved this objective by calculating the mean, which was (100.5425), and the standard deviation, which was (14.11244) for the primary research sample. A comparison was made between the calculated mean and the hypothetical mean of the instrument (84) using a one-sample t-test to determine the significance of the differences, as shown in Table 7.

Table 7: The t-value for the significance of the differences between the calculated mean and the hypothetical mean of professional competence.

The level of significance	The critical value		Degrees of freedom	The hypothetical mean	The average standard line	The mean standard deviation	The arithmetic mean	the sample
	Tabulation	Calculated						
	1.96	23.444	399	84	7.0562	14.11244	100.5425	400

It appears from Table 7 that the calculated t-value of 23.444 is greater than the tabulated t-value of 1.97 at a significance level of 0.05 and 399 degrees of freedom. This result suggests that students perceive their professors to have a high level of professional competence.

The average sample scores of faculty members, as perceived by students, indicate a high level of professional competence. The researchers attribute this to the teachers' experience, competence, and dedication to all professional, scientific, and educational aspects. These qualities are attributed to the ample and correct resources available to them, as well as their diligence, commitment, and high motivation, demonstrating vigor and vitality. The students' perceptions of their teachers as effective, productive role models in society are logical, as they view them as successful individuals necessary for their development and advancement, considering them as professional role models who have accumulated professional expertise.

These perceptions align with the findings of a study by Ghaneem (2021), which identified a range of competencies required by faculty members, including specific knowledge and professional ethics.

The second objective was to determine the significance of differences in the level of professional competence among faculty members, as perceived by students at vocational schools, based on gender (male-female). The researchers achieved this objective by calculating the mean for males, which was 102.8480 with a standard deviation of 15.09305, and the mean for females, which was 96.7000 with a standard deviation of 11.35146 for the primary research sample. A comparison of the means for males and females was conducted using an independent samples t-test to assess the significance of the differences, as shown in Table 8.

Table 8: displays the t-value for the significance of differences between the mean and the hypothetical mean of professional competence.

The level of significance	The critical value		Degrees of freedom	The hypothetical mean	The average standard line	The mean standard deviation	the sample	Sex
	Tabulation	Calculated						
D	1.97	4.310	398	9.5457	15.09305	102.8480	285	Males
				9.2684	11.35146	96.7000	115	Females

Table 8 reveals that the calculated t-value of 4.310 is greater than the tabulated t-value of 1.97 at a significance level of 0.05 and with 398 degrees of freedom. This indicates a statistically significant difference in the gender variable, favoring males, with a mean of 102.8480 for males and 96.7000 for females. This result suggests that the professional competence encompassed in the scale items in the study requires a variety of skills, such as communication skills with students, professional and social appearance, engagement in student activities, and solving scientific and social problems, all of which seem to favor males. Factors, whether social or psychological, that may not be readily available to females or may not be desirable, could contribute to this disparity. The working environment in this regard may not facilitate providing equal opportunities for both genders in certain areas. These findings are consistent with a study by Wafiq and Murad (2012), which found differences in the means of responses among the study sample individuals.

Results, Conclusions, Recommendations, and Suggestions

- **Results.**

1.It is evident that the research sample perceives their teachers to possess a good level of professional competence.
2.There is a statistically significant difference in the gender variable, favoring males.

- **Conclusions.**

1.The professional competence of the instructors is available to a good degree, indicating that the research sample's responses reflect a high level of evaluation by the students. This suggests that the instructors possess awareness and good experience during teaching, thus indicating the avai lability of these competencies to a good extent.
2.The male responses in evaluating teachers in the professional competence questionnaire were higher than those of females.

- **Recommendations.**

Based on the current research findings, the researchers recommend the following:
1- Conduct continuous training courses to train teachers on various types of professional competencies.

- **Suggestions.**

Extending from the current research, the researchers offer the following suggestions:
1. Conduct a similar study on professional competence among students.
2. Conduct a study on professional competence among teachers in different educational stages.
3. Conduct a study that reveals the correlation between professional competence and other variables beyond the assumed pedagogical interaction.

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