# The integration degree of modern technologies in sports and physical education classes by middle school teachers

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**Abstract:**

The study aims to explore the extent of middle school teachers' utilization of various available modern technologies in sports and physical education classes. The researchers relied on a descriptive approach in this study, involving a sample of 100 middle school teachers from the schools in the M'sila province. Data collection was conducted through a questionnaire, and the SPSS program was utilized for result analysis.

The study's findings revealed that physical education teachers integrate modern technology in sports and physical education classes during the planning, execution, and evaluation stages to a moderate degree.

**Keywords:** modern technology,teacher of education physical and sport,education and sports class.

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## INTRODUCTION

"Whoever possesses accurate information at the right time can control and harness the resources of nature, directing them towards the benefit of both themselves and their community. This truth is felt by every individual experiencing the changing conditions of this modern world. We live in an era of information and technology. Thus, information is an indispensable element in the time we live in. The need for information becomes evident in every activity we engage in, encompassing all facets of human, political, social, economic, military, scientific, entertainment, educational activities … etc. (Makawi, 1997, p.17)

The current century has witnessed a new wave of changes in various aspects of life. Technology has significantly evolved, and controlling information technology is considered a key component in building the cognitive power to confront the challenges of this century. This doesn't merely entail operating modern technological machines but understanding their core, applications, employing them correctly, and the ability to transform advanced knowledge into technology. (Mazen, 2014, p.15)

Education, like other fields, has been affected by this technological advancement, albeit to varying degrees. This is evident in the development of curricula, teaching methods, and other educational areas, especially within educational institutions. Education technology has emerged as a modern branch within educational sciences, with its own principles, theories, and dedicated research.

Education, being one of the most crucial components of the educational process, inevitably needed to keep pace with this technological advancement due to its significance in enhancing the learning-teaching process. Educational technology is an organized way of thinking aimed at developing and updating educational positions, increasing their efficiency. It could be said to be a systematic method for applying scientific knowledge through planning, design, production, implementation, evaluation, and control of the educational process. (Zeitoon, 2004, p.14)

Physical and sports education, like other educational subjects, is an integral part of the educational system. It works towards achieving the outlined objectives in the curriculum, aiming to build and shape future generations. Physical and sports education contributes to the educational process by imparting various motor skills enabling individuals to adapt to different situations and obstacles

encountered in various aspects of life. In our current times, the need to elevate educational standards, particularly in the field of physical and sports education, has led to a reassessment of technological training and qualification. This training encompasses a comprehensive set of academic and practical references, meeting the requirements of the modern era. (Farouk, 2009, p.66)

To keep pace with this ongoing development, the utilization of various modern technological means and methods has become an essential necessity in the current stage of education. Physical and sports education instructors are now required to possess various experiences and competencies related to modern technology. This proficiency aids them in dealing with the available modern technologies to effectively conduct physical and sports education sessions in line with the educational objectives of this domain. (Belqraoua, 2019, p.3)

Given the above, the general question that arises is: to what extent does the physical and sports education teachers integrate the modern technology in their classes?

## 1. The partial questions

– Do physical education teachers integrate modern technology during the planning phase?
– Do physical education teachers integrate modern technology during the execution phase?
– Do physical education teachers integrate modern technology during the evaluation phase?

## 2. Research Hypotheses:

## 2.1 General Hypothesis:

– Physical education teachers in  middle schools  integrate modern technology in their classes moderately

## 2.2 Specific Hypotheses:

– Physical education teachers integrate modern technology during the planning phase moderately
– Physical education teachers integrate modern technology during the execution phase moderately.
– Physical education teachers integrate modern technology during the evaluation phase moderately.

## 3. Study Objectives:

- One of the main objectives of this study is to ascertain the degree of integration of modern technology by physical education teachers within middle schools.
- Understanding the level of interest among physical education teachers in using various available modern technologies.
- Encouraging teachers to keep pace with the electronic advancements of our current era.

## 4. Explaining Terms and Concepts of the study:

- **Modern Technology:** Technology encompasses all modern tools, means, and methods used by humans to meet their needs, overcome obstacles, and gain control over them. (Al-Fateh, 2011, p.3)
- **Physical Education Session:** Physical education classes are considered one of the most important means aimed at the behavioral and physical education of students, as well as improving their social relationships within the school context
  (Abdelkader, 2018, p. 229).
- **Physical Education Teacher:** They are essential figures in the educational process, responsible for achieving educational goals related to physical education sessions by selecting suitable activities for learners. (Al-Khouli, 1996, p.147)

Additionally, a physical education teacher is primarily an educator who teaches these sports activities to students to shape them physically, mentally, psychologically and socially. (Tawfiq, 2018, p.144)

## 5. Previous Studies:

## 5.1. Study by Belqraoua Madani (2019/2020):

This study focused on "Technological and Pedagogical Competencies and their Availability among Secondary School Physical Education Teachers in Algeria." It aimed to understand the availability of technological and pedagogical competencies among these teachers and their usage during the lesson planning, execution, and evaluation stages. The sample included 359 secondary school physical education teachers in Algeria. The study used a questionnaire and revealed that these teachers highly use technological and pedagogical competencies. While planning lessons, their use was high, but during execution and evaluation, it was moderate. Additionally, there were no statistically

significant differences based on educational qualifications or years of experience across all dimensions.

## 5.2. Study by Marwa Ahmed Omaira (2019):

Titled "Availability of Technological Competencies among Faculty Members in Jordanian Universities and the Hindrances to their Availability," this study aimed to identify the availability of technological competencies and their hindrances among faculty members in Jordanian universities. The sample consisted of 300 faculty members from governmental and private universities, selected randomly. The survey results indicated a high level of availability and usage of technological competencies among the faculty. The study also found a low degree of obstacles hindering computer competencies among the faculty in Jordanian universities.

## 5.3. Study by Hafidhi Mounib (2013/2014):

The title of this study was "The Use of Modern Information and Communication Technology and its Reflection on Teaching Physical Education Activities." It aimed to highlight the importance and effectiveness of information and communication technology in the educational process of physical education, aligning with the educational system's reforms. The sample included 2546 secondary education teachers. The survey method was used, with an additional sample of 118 teachers gathered through experimental methods. The study indicated insufficient resources to cover all subjects adequately. It also highlighted that over 90% of physical education teachers did not use technological tools in managing their classes. However, the experimental part of the study demonstrated the potential for modern technological tools to activate and enhance physical education classes.

## 6. Applied Aspect:

## 6.1. Survey Study:

The survey study serves as a window for researchers to observe and understand the field, their original community, and its characteristics. It helps in testing the reliability and stability of tools and investigating their suitability for investigation. Moreover, it aids in gathering necessary information and data objectively about the subject or phenomenon being studied, while also encompassing the various conditions encountered in the field during the tool application process.

## 6.2. Survey Study Sample:

The survey study sample consisted of 15 sports and physical education

teachers from middle schools around the state of M'Sila. A total of 20 questionnaires were distributed, and after retrieval and data processing, it was found that only 15 questionnaires were valid, excluding the ones with missing responses to certain scale items.

## 6.3. Methodology:

Research methodologies are numerous, diverse, and varied in addressing different subjects and issues. It's impossible to complete any research without relying on a clear methodology that aids in studying and diagnosing the problem being addressed." (Zarwati, 2007, p. 119)

For this study, a descriptive methodology was employed due to its suitability for the nature of the research. This methodology focuses on describing and interpreting observed phenomena, identifying relationships among facts, and expressing them quantitatively or qualitatively.*(*boudaoud ,atallah, 2007, p. 119)

## 6.4. Research Community and Sample:

## 6.4.1 Research Community:

The study community involved middle school teachers in the state of M'Sila.

## 6.4.2 Research Sample:

The selection of the research sample relied on simple random sampling. Out of 450 middle school sports and physical education teachers, 15 individuals were chosen for the psychometric characteristics of the measurement tool. Additionally, 100 teachers were selected for the main study, making the sample percentage 22%, surpassing the minimum representation threshold in national research, estimated at 10% according to methodological experts.

## 6.4.3 Research Tool:

The researcher developed a questionnaire after reviewing the theoretical literature and some studies. The questionnaire aimed to collect data related to the study's variables, specifically focusing on assessing the degree of modern technology integration in physical education classes among middle school teachers. It was divided into three axes:

The first axe: The extent of technological usage in lesson planning.

The second axe: The extent of technological usage during execution.

The third axe: The extent of technological usage in the evaluation process.

## 6.4.4 The research Fields:

A.  Spatial Field*:* The field study was conducted in middle schools in the state of M'Sila.

B. Temporal Field*: The study period ranged from October 15th to December 10th, 2023.

## 6-.5 Reliability and validity of the Questionnaire:

## 6.5.1 Reliability –Alpha Cronbach:

The questionnaire demonstrated acceptable reliability. The researcher assessed its consistency using *Alpha Cronbach*'s coefficient, calculating the average correlations between the questionnaire items, resulting in a reliability coefficient of 0.63, as indicated in the table.

**Table 1.** Demonstrates the reliability of the questionnaire measuring the degree of modern technology usage in physical education classes among middle school teachers, using Alpha Cronbach

| Overall questionnaire items | Number of items: 21 | Alpha Cronbach |
|---|---|---|
| | 21 | **0,631** |

## 6-5-2. Validity:

## -Internal Consistency Validity: The correlation between the axes and the overall score of the questionnaire:

The validity of the questionnaire was demonstrated by calculating the correlation between the total scores of the axes and the overall score of the questionnaire. It was statistically significant. The correlation value between the total score of the first axis and the overall score of the questionnaire was 0.73. Similarly, the correlation between the total score of the second axis and the overall score of the questionnaire was 0.67. As for the correlation between the total score of the third axis and the overall score of the questionnaire, it was 0.78, as illustrated in the table below:

**Table.2.** Illustrates the correlations of the overall scores of the axes with the overall score of the entire questionnaire

| The axes and the overall score | The overall degree |
|---|---|
| The integration degree of modern technology by middle school teachers in physical education and sports during the planning process." | 0,733** |
| The integration degree of modern technology by middle school teachers in physical education and sports during the execution process." | 0,676** |
| The integration degree of modern technology by middle school | 0,782** |

| teachers in physical education and sports during the evaluating process." | |
|---|---|
| The correlation is significant at the alpha level of (0.01) | |

## 7. Displaying, analyzing and discussing the results of the study:

We verified the normal distribution condition for the variable of the current study location, which is represented by (the integration degree of modern technology in physical education class among middle school teachers). And the following table illustrates this

**Table.3.** Shows the verification of the normal distribution assumption regarding the variable of the study location.

| The variants | Kolmogorov-Smirnovª | | | Shapiro-Wilk | | | The dicision |
|---|---|---|---|---|---|---|---|
| | Stats | Free-dom degree | Signi-ficance Level | Stats | Free-dom degree | Signi-ficance Level | |
| Degree of Modern Technology Use in Physical Education and Sports by Middle School Teachers | 0,107 | 100 | 0.077 | 0.979 | 100 | 0.105 | Non-significant |

Based on the Kolmogorov-Smirnov and Shapiro-Wilk tests, all values for the studied variable were found to be statistically non-significant at a significance level of alpha ($0.05 = \alpha$). This leads us to conclude that the data for the variable follow a normal distribution. Since the data exhibit a normal distribution, it indicates that parametric statistical methods can be used to address the hypothesis of the current study, as illustrated in the following figure:

**Fig.1**. illustrates the verification of the normal distribution assumption for the studied variable**.**
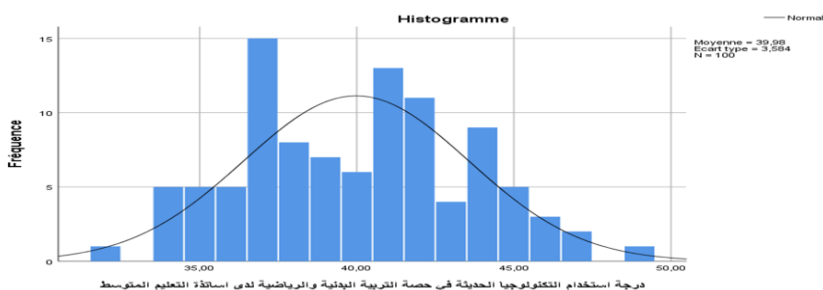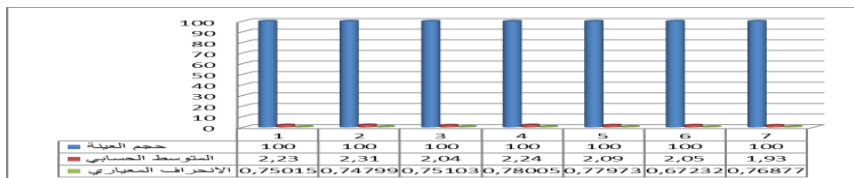
**Table.4.** Illustrates the arithmetic means and standard deviations of the sample responses on the first axis

Low [1-1.66] Moderate [1.66-2.33] High [2.33-3]

| N° | Terms of the first axis (Degree of using modern technology by middle school teachers in Physical Education and Sports during the planning process.) | Sample Size | Arithmetic mean | Standard Deviation |
|---|---|---|---|---|
| 01 | Utilizing computers in planning Physical Education and Sports lessons. | 100 | 2,2300 | 0,75015 |
| 02 | Using Word and Excel software for planning Physical Education and Sports lessons | 100 | 2,3100 | 0,74799 |
| 03 | Consistently browsing the internet to find helpful websites for the planning process | 100 | 2,0400 | 0,75103 |
| 04 | Downloading various applications and motion analysis software | 100 | 2,2400 | 0,78005 |
| 05 | Giving importance to using technological tools during the lesson while planning. | 100 | 2,0900 | 0,77973 |
| 06 | Specifying the devices and technological tools used in the lesson during the planning process. | 100 | 2,0500 | 0,67232 |
| 07 | Identifying motion analysis software and performance analysis programs during the planning process. | 100 | 1,9300 | 0,76877 |

Based on the previous table and considering the mean scores and standard deviations extracted from the responses of the study's sample on the statements of the first axis (integration degree of technology by middle school teachers in Physical Education during the planning process), we notice that the statements' saturation belongs to the moderate range (1.66 – 2.33). The mean scores for the first axis range between [2.3100-1.9300]. Therefore, we can infer that the statements of the first axis, based on the sample responses, were moderate. This indicates a moderate level of integrating technology by middle school teachers in Physical Education and Sports during the planning process, as shown in the following figure:

**Fig.2**. illustrates the arrangement of statements on the first axis according to their mean scores.

In regards to the second axis, which represents the integration degree of modern technology by Physical Education teachers in middle schools during the execution phase, the statements of this axis were arranged according to their saturation. The results were as follows:

**Table.5.** Illustrates the mean scores and standard deviations of the sample's responses on the second axis. Standard:
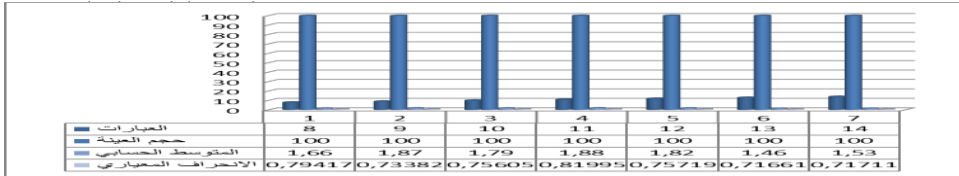Low [1-1.66], Moderate [1.66-2.33], High [2.33-3]"

| N° | Terms of the second axis (Degree of using modern technology by middle school teachers in Physical Education and Sports during the execution process.) | Sample Size | arithmetic mean | Standard Deviation |
|---|---|---|---|---|
| 08 | Used PowerPoint to present Physical Education and Sports lessons and display objectives to students. | 100 | 1,6600 | 0,79417 |
| 09 | Utilized mobile phones to explain various movements to students. | 100 | 1,8700 | 0,73382 |
| 10 | Engaged students in using technology during the lesson. | 100 | 1,7900 | 0,75605 |
| 11 | Used a data show device to display images of various motor skills intended for students. | 100 | 1,8800 | 0,81995 |
| 12 | Utilized educational videos to explain complex skills. | 100 | 1,8200 | 0,75719 |
| 13 | Used Kinovea motion analysis software during the Physical Education and Sports lesson. | 100 | 1,4600 | 0,71661 |
| 14 | Utilize a camera during the Physical Education and Sports lesson. | 100 | 1,5300 | 0,71711 |

Based on the information presented earlier in the table above and considering the arithmetic means and standard deviations derived from the responses of the sample regarding the phrases of the second axis (the integration degree of modern technology by physical education teachers in middle school during the execution process), it is noted that the saturation of the phrases falls within the medium range (1.66 - 2.33). The arithmetic means for the second axis ranged between [1.6600-1.8800]. Except for phrases number (13 and 14), where their respective simplified arithmetic means were (1.46/1.53) in the low range (1-1.66). Therefore, it can be said that the phrases of the second axis are moderate, indicating the integration degree of modern technology by middle school teachers in physical education and sports classes during the execution process is at a moderate level, according to the sample's opinion, as illustrated in the following

figure:

Fig.3. Illustrates the arrangement of phrases in the second axis according



Regarding the phrases of the third axis the integration degree of modern technology by Physical Education teachers in middle schools during the execution phase, the statements of this axis were arranged according to their saturation. The results were as follows:

, the phrases were arranged according to their saturation degree by extracting the arithmetic means and standard deviations from the responses of the study sample. The results are as follows in the table below:

Table.6. illustrates the arithmetic means and standard deviations of the sample responses on the third axis Standard

Low [1-1.66] Moderate [1.66-2.33] High [2.33-3]

| N° | Terms of the second axis (Degree of using modern technology by middle school teachers in Physical Education and Sports during the evaluation process.) | Sample Size | Arithmetic mean | Standard Deviation |
|---|---|---|---|---|
| 15 | I use various available technological tools in the evaluation process. | 100 | 2,0200 | 0,75183 |
| 16 | I utilize instructional videos in assessing students' performance. | 100 | 1,9800 | 0,73828 |
| 17 | I conduct evaluations using modern motion analysis software. | 100 | 1,8600 | 0,81674 |
| 18 | I assess performance through electronic self-assessment. | 100 | 1,8100 | 0,74799 |
| 19 | I employ artificial intelligence programs for motion analysis and feedback. | 100 | 1,6800 | 0,81501 |
| 20 | I design evaluative activities using modern technology. | 100 | 1,9500 | 0,77035 |
| 21 | I present videos and movements to students, comparing them to their performance to identify and rectify mistakes." | 100 | 1,7800 | 0,74644 |

Through the above table and considering the arithmetic means and standard deviations extracted from the responses of the study's sample individuals for each statement of the third axis (the integration degree modern technology by physical

education teachers during the Evaluation process), it's noticeable that the saturation of statements falls within the medium range (1.66 - 2.33). The arithmetic means for the third axis varied between [1.6800-2.0200].

Therefore, it can be said that the statements of the third axis are moderate; meaning the integration degree modern technology by physical education teachers during the evaluation process is moderate according to the perspective of the study's sample individuals, as depicted in the following Figure

**Fig.4.** illustrates the arrangement of the third axis statements based on their arithmetic means.
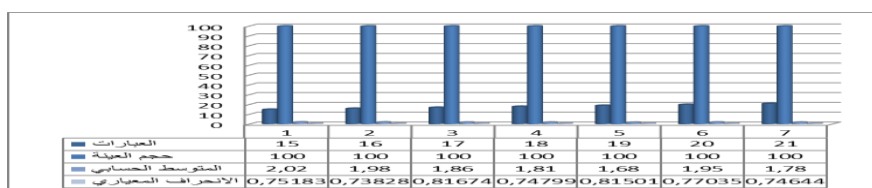


## 7.1. Discussion of hypotheses results:

**Discussing the results of the first hypothesis:** In our research, we relied on the statistical significance test (T) for a single sample to verify the hypothesis that middle school physical education teachers integrate modern technology to a moderate degree during the planning process. After conducting the statistical analysis, we arrived at the following result, as depicted in Table 7:

**Table.7.** illustrates the integration degree of modern technology by middle school teachers during the planning process in physical education classes.

| The First Axis | Sample Size | Theore-tical Mean | Arithm etic Mean | Standard Devia tion | Free-dom degree | The difference between the two means | T | Significance Level | Decision | Criterion |
|---|---|---|---|---|---|---|---|---|---|---|
| The overall deg-ree | 100 | 14 | 14,8900 | 2,098 08 | 99 | 0.89000 | 4.242 | 0.000 | Signifi-cant at 0.01 | *-11.62 16.31* The ave-rage range |

After extracting the arithmetic mean and standard deviation for the axis of integrating modern technology by middle school physical education teachers during the planning process and comparing it to the theoretical average, it was

found that the sample's average for the first axis was 14.8900 degrees, with a standard deviation of 2.09808 degrees. When comparing the achieved arithmetic average (computed) to the theoretical average of 14 degrees, the difference between the averages was 0.8900 degrees.

Using a one-sample t-test as a statistical tool, it was revealed that there is a statistically significant difference between both averages in favor of the computed average. This was confirmed by the value of t, which reached 4.242, indicating statistical significance at a significant level of 0.01 (α). Moreover, the arithmetic mean falls within the average range [11.62-16.31], with a 99% confidence level and a 1% probability of error.

Hence, the result aligns with the first hypothesis of the research, stating that 'Middle school physical education teachers moderately integrate modern technology during the planning process.' This result is confirmed at a 99% confidence level, with a 1% probability of error.

The results of the first hypothesis indicate that middle school physical education teachers integrate modern technology in planning physical education sessions moderately. This outcome might be attributed to the lack of sufficient technological capabilities among these teachers to optimally utilize various technological tools that assist them in planning physical education sessions.

Our study findings are consistent with the results of a study conducted by Ferial Naji Mustafa Al-Azzam, which concluded that the degree of using educational technology by students at private Jordanian universities for smart phones in education was moderate. This supports the first hypothesis that middle school physical education teachers moderately use modern technology in the planning process.

**Discussion of the Second Hypothesis:** We relied on the same previous test used in the first hypothesis to verify the accuracy of the hypothesis stating that middle school physical education teachers integrate modern technology moderately during the execution process. After conducting the statistical analysis, the following results were obtained, as shown in Table 8

> **Table.8.** illustrates the integration degree of modern technology by middle school teachers during the execution process in physical education classes

| The First Axis | Sample Size | Theoretical Mean | Arithmetic Mean | Standard Deviation | Freedom degree | The difference between the two means | T | Significance Level | Decision | Criterion |
|---|---|---|---|---|---|---|---|---|---|---|
| The overall degree | 100 | 14 | 12,0100 | 1,99238 | 99 | 1,99000 | 9,988 | 0.000 | Significant at 0.01 | -11.62 16.31 The average range |

After computing the arithmetic mean and standard deviation for the axis of integrating modern technology by middle school physical education teachers during the execution process and comparing it to the theoretical average, it was found that the sample's average for the second axis was 12.0100 degrees, with a standard deviation of 1.99238 degrees. Upon comparing the achieved arithmetic mean (computed) to the theoretical average of 14 degrees, the difference between the averages was -1.9900 degrees. [Using a one-sample t-test as a statistical tool in the analysis revealed that there is a statistically significant difference between both averages in favor of the theoretical average. This was confirmed by the value of t, which reached -9.988, indicating statistical significance at a significance level of 0.01 (α)]. Additionally, the arithmetic mean falls within the average range [11.62-16.31], with a 99% confidence level and a 1% probability of error.

Thus, this result aligns with the second research hypothesis stating that 'Middle school physical education teachers moderately integrate modern technology during the execution process,' with a 99% confidence level and a 1% probability of error.

The results of the second hypothesis show that middle school physical education teachers integrate modern technology moderately. This might be due to the lack of technological resources and facilities in various middle schools, in addition to teachers' unfamiliarity with the functionality of various modern technologies contributing to the development of the educational learning process.

Our study aligns with Belkraoua Madani's research, which concluded that technological competencies among secondary education teachers during the execution phase are moderate. This supports our second hypothesis that middle school physical education teachers use modern technology moderately during the

execution phase of physical education sessions.

**Discussion of the Third Hypothesis:** We used the same test as before in the previous two hypotheses to verify the accuracy of the hypothesis stating that 'Middle school physical education teachers integrate modern technology moderately during the evaluation process. After conducting the statistical analysis, the results are shown in the following table

**Table.8.** illustrating the integration degree of modern technology by middle school physical education teachers during the evaluation process.

| The First Axis | Sample Size | Theore-tical Mean | Arith-metic Mean | Standard Devia-tion | Free-dom degree | The difference between the two means | T | Signifi-cance Level | Decisi on | Criter -ion |
|---|---|---|---|---|---|---|---|---|---|---|
| The overall deg-ree | 100 | 14 | 13,0800 | 2,05323 | 99 | 0,92000 | 4,481 | 0.000 | Signifi -cant at 0.01 | *-11.62 16.31* The ave-rage range |

After extracting the mean and standard deviation for the axis of integrating modern technology by middle school physical education teachers during the evaluation process and comparing it with the theoretical mean, it was found that the average score of the research sample in the third axis was (13.0800) with a standard deviation of (2.05323). When comparing the calculated arithmetic mean and the theoretical mean of 14 degree, the difference between the means was (-0.9200). [Using the one-sample t-test as a statistical method, it was found that the statistical difference between both calculated and theoretical means favored the theoretical, supported by the (t) value of (-4.481) at a significance level of (0.01=α)]. Additionally, the calculated mean belongs to the middle range [11.62-16.31], with a 99% confidence level and a 1% margin of error.

Consequently, this result aligns with the third research hypothesis stating that 'Middle school physical education teachers integrate modern technology moderately, with a confidence level of 99%, allowing for a 1% margin of error. According to these results, it appears that middle school physical education

teachers utilize modern technology moderately during the evaluation phase. This might be attributed to their inadequate pace in keeping up with technological advancements in our current world, and the lack of specialized technological training that guarantees their development and the enhancement of the educational process.

Our study correlates with Ilham Yousef Salem Al-Saeedat's research, which concluded that the possession of technological competencies by teachers of learning difficulties was moderate. This was also suggested by the third hypothesis that physical education teachers during the evaluation phase utilize modern technology moderately.

**Discussion of the General Hypothesis:** The same statistical test was utilized to verify the general hypothesis stating that 'Middle school physical education teachers integrate modern technology in physical education class moderately'. Through statistical analysis, the following results were obtained as illustrated in the table."

Table.10. illustrates the integration degree of modern technology in Physical Education classes among middle school teachers.

| The First Axis | Sample Size | Theore-tical Mean | Arith-metic Mean | Standard Devia-tion | Free-dom degree | The difference between the two means | T | Signifi-cance Level | Decision | Criter-ion |
|---|---|---|---|---|---|---|---|---|---|---|
| The overall deg-ree | 100 | 42 | 39,9800 | 3,58442 | 99 | 2,020 | 5,635 | 0.000 | Signifi-cant at 0.01 | -34.86 48.93The ave-rage range |

After computing the mean and standard deviation for the questionnaire on the integration of modern technology in physical education classes among middle school teachers and comparing it to the theoretical mean, it was found that the average score of the research sample in the questionnaire was 39.98 with a standard deviation of 3.58442. When comparing the calculated mean with the theoretical mean of 42, the difference between the two means was -2.020 degrees. Using a one-sample t-test, a statistical difference was observed favoring the theoretical mean with a t-value of -5.635 at a significance level of 0.01 (α).

Moreover, the calculated mean falls within the range [34.86 - 48.93], with a 99% confidence level and a 1% margin of error.

Consequently, these results align with the general research hypothesis that suggests 'Middle school physical education teachers moderately integrate modern technology in physical education classes.' This conclusion holds a 99% confidence level, with a 1% margin of error.

Considering the previous hypothesis results and the general research hypothesis, it is evident that the integration of modern technology by physical education teachers was moderate. This can be attributed to the lack of technological training programs and inadequate access to various modern technological resources in educational institutions. These findings are consistent with Dr. Ahmed Salama Al-Anzi's study, which revealed that the degree of technology utilization in the educational administration of Kuwaiti government schools, according to teachers' perspectives, was moderate.

## 8. CONCLUSION

Technology contributes significantly to the progress and development of education in general, particularly in the educational and learning processes. In the sports domain, optimal usage and effective deployment of modern technology represent significant indicators of progress and modernization, given the pivotal and effective role technology plays in sports development. This study aimed to underscore the role of modern technology in physical education classes by assessing teachers' utilization of various available modern technologies. The findings are as follows:

- Physical education teachers moderately integrate modern technology during the planning phase.
- Physical education teachers moderately integrate modern technology during the execution phase.
- Physical education teachers moderately integrate modern technology during the evaluation phase.
- Recommendations:
- It is imperative to equip educational institutions with various modern technological resources."

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