

ISSN: 2392-5442 ESSN : 2602-540X		<i>Sport system journal</i>
V/12 N/01. Year/2025		<i>International scientific journal published by: Ziane Achour –Djelfa- Algeria</i>
P 319 - 334		<i>Received: 2024-12-29 Accepted: 2025-02-27</i>

The impact of digital technologies on motivating Physical and Sports Education students in higher schools to achieve academic excellence.

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Abstract:

This study aims to explore the impact of digital technologies on motivating Physical and Sports Education students in higher schools to achieve academic excellence. The study relied on the analytical descriptive curriculum, using questionnaires to collect data from a sample of students in the Physical and Sports Education Department. Higher School of Professors (50 students).

The results showed that digital technologies, such as electronic applications and educational platforms, significantly contribute to increasing students' motivation to achieve academic excellence. The use of technology has also been shown to enhance students' research, analysis and problem-solving skills.

Keywords: Digital Technologies, Student Motivation, Academic Excellence

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Introduction and problem of the study:

Recent years have seen remarkable development in the areas of digital technologies, becoming an essential part of people's lives, including education (*Ali Mohamed, 2020*). In this context, ICTs have begun to bring about fundamental changes in teaching and learning methods and have become the main tool that can contribute to improving students' academic performance in various disciplines, including physical education and sports.

Digital techniques in physical education are among the most important means to enhance students' motivation towards academic and sporting excellence, reflecting their active role in developing academic and physical performance together (*Mahmoud Rashid, 2021*). When technological tools are used effectively, they can contribute to improving student-teacher interaction, increasing the student's interest in the subject matter and thus raising his motivation towards learning and excellence in various disciplines, including sports.

When talking about motivating students, this is a critical factor in achieving academic success. The higher the motivation, the greater the chances of academic excellence, and this includes the field of physical education that requires new learning skills and continuous motivation to achieve the best results (*Abdallah Fouad, 2019*). Therefore, digital technology offers a great opportunity in this field, as it can be used to motivate students and equip them with the skills and knowledge needed to excel academically and physically.

These techniques include a variety of tools that support students in achieving their academic and sporting goals. For example, there are e-



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apps that offer dedicated sports training programmes, as well as visual and audio content that helps enhance the learning process, as well as online platforms that allow students to interact with educational materials in a dynamic and renewed manner ***(Salem Badr, 2022)***. Through these tools, students can develop their physical and mental skills, enhancing their motivation to achieve their academic and sporting goals simultaneously ***(Hassan Mahmoud, 2020)***.

The use of these technological tools is in line with recent trends in education, especially given the increasing reliance on technological means in the educational process ***(Eltayeb Jamal, 2021)***. Technology is not just a way to improve the learning experience, it is a key element in bringing about a fundamental change in teaching methods and teacher-student interaction, which enhances the level of engagement and interaction, benefiting students to study academic and sports subjects more deeply and effectively.

In this context, the researcher points out that there are many studies and research in the field of sports that have dealt with this subject, including Abdallah study (2019) noted that student motivation plays an important role in achieving academic excellence in physical education, showing that a stimulating educational environment and the use of technology significantly contributed to raising student motivation, especially when using technological tools in sports learning. The study also shows that students who benefited from technology were better able to achieve both academic and sporting success, and in the same vein the study Mahmoud (2021) addressed the impact of digital technology on academic performance in physical education. Its results showed that the use of training applications and



digital software was effective in enhancing the level of interaction and participation among students in sports activities. It concluded that technology contributed to increasing students' motivation to continue learning and achieve academic excellence in sports.

The Salem Study (2022) also addressed the importance of digital applications in supporting the educational process, noting that these tools helped students interact with academic and sports content in an innovative way. The study confirmed that the use of digital technology has had a positive impact on increasing students' motivation for academic excellence, focusing on the challenges associated with the effective use of these tools in educational settings.

The main problem is to know the impact of digital technologies on the motivation of physical and sports education students to achieve academic excellence. While the use of technology may enhance the level of interaction with sports and academic content, the question remains as to how these tools will increase students' motivation to achieve academic excellence in this area, and what kind of technological tools are more effective in this context (*Sherif Abdallah, 2020*).

Despite the positive results shown by previous studies, there are concerns that excessive use of technology may lead to negative effects such as distracting students or reducing direct interaction with teachers (*Mahmoud Hassan, 2021*). It also highlights the challenge of striking a balance between using digital tools to develop physical and sports skills and maintaining students' motivation for academic excellence.

Hence, the question arises: Does digital technologies have a positive impact on motivating PE students at the Higher School of Professors



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to achieve academic excellence?

General premise.

- Digital technologies have an impact on motivating PE students at the Higher School of Professors to achieve academic excellence "

Partial hypotheses

The use of digital technologies in learning helps enhance students' academic motivation

Digital applications and platforms contribute to improving students' academic performance

Research Objectives:

- Analysis of the impact of the use of digital technologies on the motivation of PE students: study how technological tools such as electronic applications and digital content affect students' motivation level in this field.
- Exploring the role of digital technologies in improving students' academic performance in physical education: examining how these techniques contribute to increasing students' interaction and participation in academic subjects related to physical and sports education.
- Identifying challenges and opportunities arising from the use of digital techniques in physical education: examining students' difficulties in using these technological tools and how to balance



sports and academia.

The importance of research:

The importance of this research is to highlight the role of digital technologies in promoting the motivation of physical and sports education students to achieve academic excellence. Given the widespread diffusion of technology in various educational fields, the research seeks to understand how these technological tools affect students' academic and physical performance, and to identify the most effective methods to motivate them towards excellence. It also aims to provide solutions to the challenges students may face in balancing sports activities with academic studies, thereby contributing to the improvement of the educational and learning process in the field of physical education.

Definition of concepts and terminology:

1. *Digital technologies:* Digital technologies refer to tools and applications that use digital data in the process of creating, storing, and processing information, and include computers, Internet, mobile devices, and computer software. These tools are used in various educational fields to improve teaching and learning methods (**Ali Mohamed, 2020**).
2. *Motivating students:* Motivating students is the internal force that drives students towards achieving their academic goals and implies their desire for learning and excellence. Student motivation is associated with several factors, including social support, educational environment, and educational methods used (**Abdallah Fouad, 2019**).
3. *Academic excellence:* Academic excellence is intended to achieve



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the highest levels of performance and excellence in the field of study, including mastering the skills and knowledge required in academic subjects and obtaining outstanding results in academic examinations and projects (*Mahmoud Rashid, 2021*).

Field study procedures:

Exploratory study.

In our research, we conducted a survey to gather preliminary information on the subject. Emphasis was placed on exploring the studied phenomenon and identifying key research questions. We used descriptive methods such as questionnaires or interviews to collect data, with the aim of guiding research towards more detailed studies in the future. (*Debbah A, Habara M, 2024, p. 41*)

Curriculum used:

In this research, the Analytical Descriptive Curriculum was used, which aims to study social and educational phenomena in a comprehensive and accurate manner by collecting and analysing data to determine the relationship between different variables. (*Yassin A, Sahnoun M, 2024, p. 05*)

Research Community:

The research community consists of first-year students in physical and sports education at the Higher School of Teachers in Aghat.

Sample Search:



The primary research sample, the group of elements representing the original research community, is meant to be genuinely representative,

The sample of research was chosen in a deliberate manner, focusing on 50 students from the first year of physical and sports education at the Higher School of Professors in Aghout.

Tools used in research:

After studying this topic, looking at previous studies, looking at previous topics of relevance, and polling a sample of curriculum specialists, we saw the most appropriate tool for gathering information, the questionnaire.

Scientific conditions of the instrument (psychometric properties):

- The arbitrators' honesty (apparent honesty):

In this study, the ostensible authenticity method was used to evaluate the initial questionnaire containing 24 phrases. The questionnaire was presented to professors specializing in physical education and psychology, who were asked to assess the ferry's ability to measure the intended goal. Phrases that were not agreed upon by more than 80% of professors were excluded based on their opinions, both in terms of wording and content. After the necessary modifications, the final version of the questionnaire containing 14 phrases was reached.

-*Persistent calculation of questionnaire (internal consistency):*



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Table 1 represents the persistence factor for each axis of the questionnaire and the total axis

<i>Domain Address</i>	<i>Number of paragraphs</i>	<i>Alfa Kronbach coefficient</i>
Total axes	14	0.756

Source: Based on Spss statistical package programme outputs

Through Table 1, we note that the Alpha Kronbach questionnaire coefficient (0.756), which is an indicator of the instrument's good stability, shows that the tool has high stability, enhancing the questionnaire's credibility and validity to test hypotheses.

-Self-Honesty:

It is calculated according to the following return:

The square root of the constant factor is equal to

$$\text{Self - Honesty} = \sqrt{\text{Constant Factor}}$$

$$r = \sqrt{0,756} = 0,869$$

It has an honesty factor of 0.869, which is statistically D. Hence we can say that our study questionnaire has a high degree of honesty and can be applied to the study sample.

Statistical methods and methods:

-Statistical Package Program: Spss

-Alfa Kronbach coefficient

-Proportion

-Test k^2

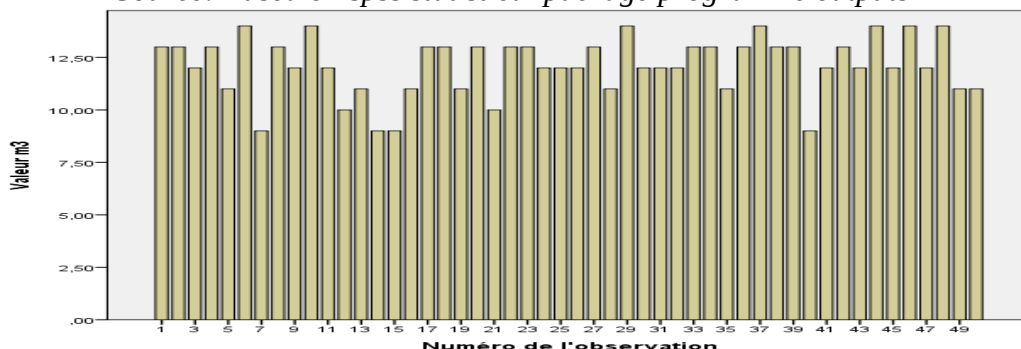
Presentation and analysis of results.

Presentation and analysis of the first hypothesis results.

Table 2: Table represents statistical operations

Ferry	Answers	Percentage%	Answers	Percentage%	Calculated χ^2	Scheduled χ^2	freedom	Indicative level
01	Yes	88%	No	12%	28.880	3.841	01	0.05
02	Yes	90%	No	10%	32	3.841	01	0.05
02	Yes	68%	No	32%	6.480	3.841	01	0.05
04	Yes	90%	No	10%	32	3.841	01	0.05
05	Yes	74%	No	26%	11.520	3.841	01	0.05
06	Yes	68%	No	32%	6.480	3.841	01	0.05
07	Yes	34%	No	66%	5.120	3.841	01	0.05

Source: Based on spss statistical package programme outputs



"This scheme represents the distribution of the proportion of students' responses through various observations."

Discussing results first hypothesis.

The study results show that 88% of students regularly use this to help them in their university studies, with calculated χ^2 value (28.880) exceeding the tabular value (3.841) at an indicative level of 0.05, indicating a clear positive impact. A 90% of students also noted that technology provided educational tools that facilitated learning in physical education, which was supported by the value of calculated χ^2 (32), while the 68% emphasized that digital applications helped them to understand theoretical concepts effectively, with the value of calculated χ^2 (6.480), reflecting the importance of digital applications in facilitating theoretical understanding. In addition, the results showed



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that 90% students benefit from digital platforms in developing their practical skills, with the value of calculated χ^2 (32), and the 74% reported that digital technologies enhance their communication with professors and colleagues, which is confirmed by the value of calculated χ^2 (11.520). 68% explained that digital technologies make learning more interactive and effective, with calculated χ^2 value (6.480). Despite these benefits, 66% of students indicated that the university does not provide the necessary possibilities to use digital technology in learning, with calculated χ^2 value (5.120), revealing a lack of technical infrastructure. These results underscore the importance of digital technologies in supporting the educational process, but also highlight the need to improve the possibilities available for optimal employment.

Interpretation of results

The results of the study suggest that digital technology plays an important role in improving the physical education learning experience, helping facilitate theoretical understanding of mathematical concepts and enhancing practical skills, as well as improving interaction between students and professors. These results are in line with the Abdullah Study (2019), which confirmed that the use of technological tools in sports learning enhances students' motivation and contributes to their academic excellence. Most students also reported that digital platforms helped them develop their practical skills, reflecting Mahmoud's 2021 study finding that training applications and digital programs were effective in increasing interaction and participation among students in sports activities, reflecting positively on their academic performance.

Furthermore, the results of the current study showed that most students confirmed that digital technologies enhanced their communication with professors and colleagues, reinforcing the idea of the Salem Study (2022), which indicated that digital applications contribute to increasing academic interaction and motivating students to excel. Despite these benefits, the study also showed a lack of

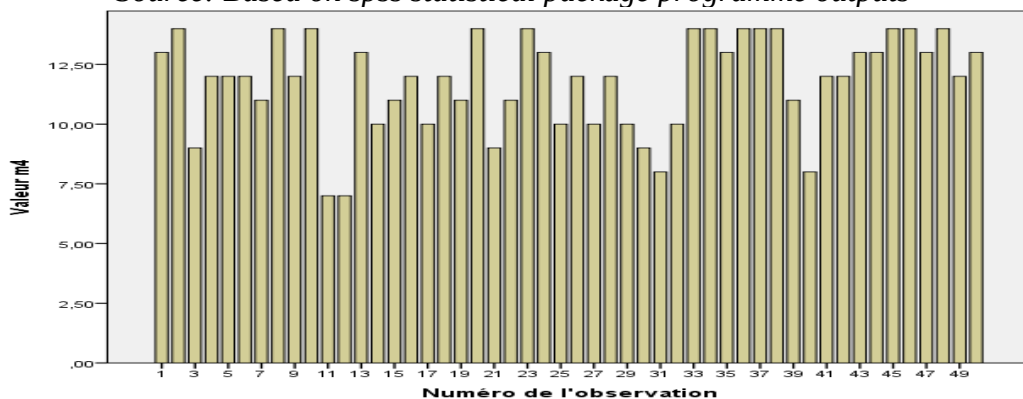
technical capabilities in some universities, which is consistent with the challenges posed by the Salem Study (2022) on the effectiveness of the use of technology in educational settings.

Presentation and analysis of the results of the second hypothesis.

Table 2: Table represents statistical operations

Ferry	Answers	Percentage%	Answers	Percentage%	Calculated K2	Scheduled K2	freedom	Indicative level
01	Yes	62%	No	38%	2.880	3.841	01	0.05
02	Yes	72%	No	28%	9.680	3.841	01	0.05
02	Yes	58%	No	42%	1.280	3.841	01	0.05
04	Yes	56%	No	44%	0.720	3.841	01	0.05
05	Yes	76%	No	24%	13.520	3.841	01	0.05
06	Yes	74%	No	26%	11.520	3.841	01	0.05
07	Yes	82%	No	18%	20.480	3.841	01	0.05

Source: Based on spss statistical package programme outputs



"This scheme represents the distribution of the percentage of students' responses through various observations."

Discussion of the results of the second hypothesis.



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The results of the study indicate that 62% of students feel motivated to study when using modern digital tools, although the calculated χ^2 value (2.880) was lower than the tabular value (3.841), indicating a lack of clear statistical indication. On the other hand, 72% of students confirmed that technology contributes to improving their overall academic performance, with the value of χ^2 calculated (9.680) exceeding the tabular value, indicating a positive impact and clear statistical connotation.

With regard to enthusiasm for participating in school activities, 58% of students reported that digital technology increased their enthusiasm, but the value of χ^2 calculated (1.280) did not show sufficient statistical significance. The results also showed that 56% perceived technology to help them regulate their time, but the calculated χ^2 value (0.720) was lower than the tabular value, indicating a lack of visible influence on this aspect.

On the other hand, the results showed that digital technology enhances students' confidence in their academic abilities, with an approval rate of 76% with a calculated χ^2 value (13.520) that outperformed the tabular value, reflecting a strong statistical connotation. 74% of students confirmed that technological tools make learning more enjoyable and interesting, with a clear statistical indication of the value of the χ^2 calculated therein (11.520). In addition, 82% of students indicated that digital technology positively affects the achievement of their study goals, with the value of calculated χ^2 (20.480) reflecting a strong statistical connotation.

Discussion of results.

The results of the current study indicate a varying impact of digital technologies on students' motivation and academic performance, which is consistent with previous studies on the role of technology in education. Results showed that a large proportion of students feel motivated when using digital technologies, although there is no clear statistical indication of this effect. This is in line with Abdallah study (2019), which emphasized the importance of a stimulating educational



environment and the role of technological tools in enhancing the motivation of students to learn, especially in the field of physical education.

In terms of improving academic performance, the current results have supported a clear positive impact, with the majority of students stressing that digital technology contributes to improving their academic performance, which corresponds to the findings of the Mahmoud Study (2021), which showed that training applications and digital programs enhance the level of interaction and participation among students and increase their motivation to achieve academic excellence, especially in sports activities.

In addition to enthusiasm for participation in school activities, students reported an increase in their enthusiasm with the use of technology, but the statistical indication was insufficient to confirm a significant impact. In contrast, the Salem Study (2022) confirmed that digital applications help interact with academic content in an innovative way, enhancing students' motivation to participate.

In terms of time management, the study did not show a strong impact of technology on this aspect, a challenge Salem (2022) noted in his study, where he focused on the importance of effectively using digital tools to achieve positive results.

On the other hand, the current study has shown a strong impact of technology on enhancing students' confidence in their academic abilities and achieving study goals, and it also increases the pleasure of learning. These results are consistent with Abdallah Study (2019), which showed that students who benefited from technology were better able to succeed academically, as well as with Mahmoud's Study (2021), which highlighted the role of technology in improving educational experience in general.

Conclusion.

In light of the results of the current study, it is clear that digital technology plays a pivotal role in enhancing the learning experience and motivating students to achieve outstanding academic performance, especially in the field of physical education. Despite the



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uneven power of influence across different aspects, technology has proved effective in improving academic performance and enhancing interaction between students and professors, as well as supporting confidence in academic abilities and developing practical skills.

The results also point to the importance of the technological environment in making the learning process more enjoyable and interesting, reflecting the positive impact of digital applications and training programs. However, challenges related to optimal use of digital technology, such as lack of technical capabilities, remain a barrier that requires further research and attention to ensure that these tools are used more effectively.

Finally, the study emphasizes the need to develop technical infrastructure and support professors and students with appropriate training to invest the great potential of digital technology in education, thereby contributing to the promotion of academic achievement and achievement of educational goals in a more inclusive and sustainable manner.

Recommendations.

- Technological infrastructure development: Educational institutions must improve digital infrastructure, including the provision of modern devices and rapid networks to ensure that technology is effectively facilitated in the educational process.
- Training professors in the use of digital tools: It is important to organize ongoing training programmes for professors to enhance their skills in using educational technology in a way that contributes to improving the learning experience and increasing students' interaction.
- Motivating students to use digital technologies: Students should be encouraged to use technology tools continuously by providing motivational support such as rewards or activities that rely on these tools to motivate them to take advantage of them.
- Keeping up with technological development in educational curricula: Curricula must be updated periodically to include the use of digital technologies, and the provision of advanced educational applications

and programs that support effective learning in various academic fields.

- Overcoming technical challenges: It is necessary to work to solve problems related to the lack of technical capabilities in some universities, and provide ongoing technical support to ensure the optimal use of digital technology in education.

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