Lebanese Physics Teachers' Attitudes Toward the Use of MagicSchool.AI in Their Teaching Practices

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Abstract

In an era of rapid technological advancement and digital transformation, the integration of artificial intelligence (AI) in education has become increasingly important. AI tools offer promising opportunities to enhance the quality and efficiency of teaching and learning. MagicSchool.AI is an AI-powered platform designed to support teachers by generating instructional materials tailored to specific subjects, including physics. The effective integration of AI tools largely depends on teachers' attitudes and their willingness to adopt new tools. This study investigates the attitudes of Lebanese physics teachers toward using MagicSchool.AI in their teaching practices, employing a quantitative descriptive research design. Eighty teachers across Lebanon completed an online survey composed of closed-ended questions and Likert-scale items. Findings revealed that only 28.7% of respondents currently use MagicSchool.AI, primarily for lesson planning followed by assessment development. The most common barriers to adoption were limited time to explore new tools and concerns about the reliability of AI-generated content. Overall, teachers expressed generally positive attitudes regarding ease of use, effectiveness, time-saving potential, and accuracy of outputs, though concerns were noted about the platform's alignment with the Lebanese physics curriculum. Compared to other AI tools, MagicSchool.AI received higher ratings in terms of usability, physics-specific features, content quality, and support for students' conceptual understanding. Statistically significant differences in attitudes were observed based on age (20–29), gender (female), and teaching experience (6–10 years). In conclusion, attitudes ranged from mixed to somewhat positive, with teachers offering valuable suggestions to better align the platform with the needs of physics education in Lebanon.

Keywords

MagicSchool.AI, Physics, Attitudes, Teachers, Lebanon.

Résumé

L'intégration de l'intelligence artificielle **(**IA**)** dans l'éducation est devenue essentielle à l'ère de la transformation numérique. Les outils d'IA offrent des opportunités significatives pour améliorer l'enseignement et l'apprentissage. MagicSchool.AI, une plateforme basée sur l'IA, est spécifiquement conçue pour aider les enseignants à créer du matériel pédagogique personnalisé, notamment en physique. L'adoption de ces outils dépend fortement des attitudes des enseignants et de leur volonté pour évoluer et utiliser de nouveaux outils. Cette étude examine les attitudes des professeurs de physique Libanais à l'égard de l'utilisation de MagicSchool.AI dans leurs pratiques d'enseignement, en utilisant une conception de recherche descriptive quantitative. Quatre-vingts enseignants à travers le Liban ont rempli un sondage en ligne composé de questions fermées et d'éléments à échelle de Likert. Les résultats indiquent que seulement 28.7% des enseignants utilisent actuellement la plateforme, principalement pour la planification de cours et l'élaboration d'évaluations. Les principaux obstacles identifiés incluent le manque de temps pour explorer de nouveaux outils et des doutes sur la fiabilité du contenu généré par l'IA. Cependant, les enseignants ont généralement exprimé des attitudes positives concernant la facilité d'utilisation, l'efficacité et le potentiel de gain de temps de MagicSchool.AI. Des préoccupations ont été soulevées quant à l'alignement de la plateforme avec le programme de physique Libanais. Des différences statistiquement significatives dans les attitudes ont été observées en fonction de l'âge (20–29ans), du genre (féminin) et de l'expérience d'enseignement (6–10ans). Les enseignants ont formulé des suggestions précieuses pour adapter davantage MagicSchool.AI aux besoins de l'enseignement de la physique au Liban.

Mots-clés

MagicSchool.AI, Physique, Attitudes, Enseignants, Liban.

مستخلص

في عصر يتسم بالتطور التكنولوجي السريع والتحول الرقمي، أصبح دمج الذكاء الاصطناعي (AI) في التعليم ذا أهمية متزايدة. توفر أدوات الذكاء الاصطناعي فرصًا واعدة لتعزيز جودة وكفاءة التدريس والتعلم.MagicSchool.AI هي منصة مدعومة بالذكاء الاصطناعي مصممة لدعم المعلمين من خلال إنشاء وسائل تعليمية مصممة لمختلف المواد بما في ذلك مادة الفيزياء .يعتمد التكامل الفعال لأدوات الذكاء الاصطناعي إلى حد كبير على مواقف المعلمين واستعدادهم لتبني أدوات جديدة. تبحث هذه الدراسة في مواقف معلمي الفيزياء اللبنانيين تجاه استخدام MagicSchool.AI في ممارساتهم التعليمية، باستخدام تصميم بحث وصفي كمي. أكمل ثمانون معلمًا من جميع أنحاء لبنان استبيانًا عبر الإنترنت يتكون من أسئلة مغلقة ومقاييس ليكرت. كشفت النتائج أن 28.7% فقط من المستجيبين يستخدمون MagicSchool.AI حاليًا، وذلك بشكل أساسي لتخطيط الدروس يليه انشاء التقييمات. كانت العوائق الأكثر شيوعًا أمام التبني هي الوقت المحدود لاستكشاف الأدوات الجديدة والمخاوف بشأن موثوقية المحتوى الناتج عن الذكاء الاصطناعي. بشكل عام، عبر المعلمون عن مواقف إيجابية بشكل عام فيما يتعلق بسهولة الاستخدام والفعالية وإمكانية توفير الوقت ودقة المخرجات، على الرغم من وجود مخاوف بشأن توافق المنصة مع منهج الفيزياء اللبناني. مقارنة بأدوات الذكاء الاصطناعي الأخرى، تلقت MagicSchool.AI تقييمات أعلى من حيث قابلية الاستخدام، والميزات الخاصة بالفيزياء، وجودة المحتوى، ودعم الفهم ا للطلاب في مادة الفيزياء. لوحظت فروق ذات دلالة إحصائية في المواقف بناءً على العمر (20-29)، والجنس (أنثى)، والخبرة التعليمية (6-10) سنوات .في الختام، تراوحت المواقف من مختلطة إلى إيجابية إلى حد ما، مع تقديم المعلمين لاقتراحات قيمة لمواءمة المنصة بشكل أفضل مع احتياجات تعليم الفيزياء في لبنان.

كلمات مفتاحية

MagicSchool.AI، الفيزياء، مواقف، المعلّمون ، لبنان.

1. Introduction

1.1 Overview

In the era of rapid technological development and digital transformation, the role of artificial intelligence (AI) applications in education has become prominent. These applications offer new opportunities to enhance the quality of education and increase the effectiveness of the teaching learning process. They provide specialized platforms to assist teachers in accomplishing numerous academic tasks, such as lesson planning, selecting learning activities, preparing various assessment tools, and suggesting personalized learning activities (Mustafa et al., 2024). In particular, AI tools have become an important part in Lebanese society (Yehya, Barbar & Abou-Rjeili, 2018, as cited in Yehya et al.,2019) and they have the potential to support physics education (Aina, 2013; Hursen & Asiksoy, 2015; Kamei, 2015; Salas-Pilco & law, 2018; Shan Fu, 2013; Sharma, 2015; Siddiqa, Schererb & Tondeu, 2016, as cited in Yehya et al.,2019).

One notable application is MagicSchool.AI, which is widely used by over 1.5 million teachers globally. It offers a wide range of tools specifically designed for them, including support in academic planning, preparation of different assessment tools, behavioral intervention plans, and enhancing communication between teachers, families, and students (www.magicschool.ai)(Mustafa et al., 2024).

1.2 Research Problem

The teacher is key to the success of any initiatives to the effective implementation of the ICT educational technology in the educational system. Teacher effectiveness depends mainly on the teachers' attitude (Angadi, 2014, as cited in Yehya et al., 2019). Attitude, in turn, refers to one's positive or negative judgment about a concrete subject (Kumar, Karabenick & Burgoon, 2015, as cited in Yehya et al., 2019). Teachers' attitudes are as important for promoting learning as they are creating a positive learning environment and increasing learning motivation (Eggen & Kauchak, 2011, as cited in Yehya et al.,2019). The attitudes of teachers and their willingness to embrace the technology are directly related to the success of learning with technology in the classroom (Teo, 2008, as cited in Yehya et al.,2019). Thus, the acceptance and the effective usage of ICT in education involve a positive correlation with teachers' knowledge and attitude towards ICT in teaching and learning.

In Lebanon, since 2000, the Lebanese Ministry of Education and Higher Education (MEHE) has been trying to implement ICT in education but unfortunately, its potentials were focused on the hardware with less concern on the teachers' attitudes (Alameh, 2013; Yehya et al., 2018, as cited in Yehya et al.,2019). In spite of the worldwide reasonable research studies that focus on the role of teachers'

attitude towards ICT in the success of the implementation process, there is a lack of the Lebanese studies that examine Lebanese teachers' attitude from their perspective in general and physics teachers' attitude in particular towards technology (Yehya et al., 2019).However, MagicSchool.AI has the potential to enhance lesson planning in teachers' practices (Setyaningsih et al., 2024); but Lebanese teachers' attitudes toward the use of MagicSchool.AI in their practices are still underexplored. According to my search, there is lack of the studies that studies that examine Lebanese teachers' attitude toward using MagicSchool.AI in their practices. Thus, it is essential to investigate Lebanese physics teachers' attitudes toward using MagicSchool.AI to assess its impact on teaching effectiveness, identify adoption challenges, and guide improvements in AI integration in physics education.

1.3 Research Question

What are the attitudes of Lebanese physics teachers toward the use of MagicSchool.AI in their teaching practices?

1.4 Research Objective

The aim of the study is to examine the attitudes of Lebanese physics teachers toward the use of MagicSchool.AI in their teaching practices.

1.5 Hypothesis

Lebanese physics teachers have positive attitudes toward the use of MagicSchool.AI in their teaching practices.

1.6 Importance of the Study

This study is important as it investigate Lebanese physics teachers' attitudes toward using MagicSchool.AI, highlighting usage patterns, benefits, and adoption barriers. It provides valuable insights for educators, policymakers, and coordinators to enhance the effective integration of AI in physics education.

2. Literature Review

Teachers play a pivotal role as primary agents in implementing innovative practices within the educational sphere (Fritz et al., 1995, as cited in Moradi, 2025). It is essential that teachers remain up to date on new educational technologies and enhance their technological literacy and pedagogical viewpoints regarding the adoption of these modern technologies in their teaching practices. However, the extent to which teachers can adopt and adapt to these technologies often depends on the cultural and institutional frameworks in which they operate (Moradi,2025).

On the other hand, students describe physics as a difficult subject to learn (Ornek, Robinson, & Haugan, 2008, as cited in Erdem, 2019). It is thought that students may take advantage of technological opportunities in order to overcome learning difficulties in physics. The inability of students to perceive the physics concepts accurately leads to misconceptions which are consequently difficult to overcome (Atasoy & Akdeniz, 2007; Gulçiçek & Yagbasan, 2004; Kaltakci & Didis, 2007; Kim, Choi & Song, 2007; Lawrenz, 1986; Styer, 1996; Sung & Rudowicz, 2003; Van Hise, 1988; Yıldız & Buyukkasap, 2006; Zeilik, Schau, & Mattern, 1998, as cited in Erdem, 2019). However, the product of technology, contribute positively to the correction of misconceptions and to the development of concepts, and it is also emphasized by studies that this increases students' academic achievement (Bozkurt & Sarikoc, 2008; Demircioglu & Geban, 1996; Gul & Yesilyurt, 2011; Guven & Sulun, 2012; Jimoyiannis & Komis, 2001; Karamustafaoglu, Aydın, & Ozmen, 2005; Kolcak, Mogol, & Unsal, 2014; Sarabando, Cravino & Soares, 2014; Wang, Wu, & Hsu, 2017; Windschitl & Andre, 1998, as cited in Erdem, 2019).

3. Theoretical Framework

Technology acceptance model (TAM), developed by Davis (1989), is one of the most important theories for understanding and predicting the use of technology in education (Granić & Marangunić, 2019; Scherer et al., 2019, as cited in Silva et al., 2025). TAM suggests that two main ideas define a person's behavioral intention to utilize a technology: perceived utility and perceived simplicity of usage. Perceived usefulness refers to the degree to which an individual believes that using a particular system would enhance their job performance, while perceived ease of use refers to the degree to which an individual believes that using the system would be free of effort (Davis, 1989; Davis & Venkatesh, 1996; Kukul, 2023, as cited in Galimova et al., 2024).

4. Methodology

4.1 Research Design

This study adopted a quantitative descriptive method as an appropriate research approach to examine Lebanese physics teachers' attitudes toward the use of MagicSchool.AI in their teaching practices. An online structured survey has been prepared and used as a research instrument to obtain data relevant to the research question.

4.2 Population and Sample

The target population for this study consisted of all physics teachers in Lebanon. A purposive sampling method was employed, wherein the survey link was distributed through WhatsApp and

Telegram groups affiliated with the Lebanese Association of Physics Teachers (LAPT), which connects physics educators across Lebanon. These groups are organized by grade levels, including LAPT7, LAPT8, LAPT9, LAPT10, LAPT11 (S&H), LAPT12 (LS/GS), LAPT12 (SE/LH), as well as a general group titled "Physics Teachers in Lebanon." The survey was shared across all these platforms to ensure a diverse and representative sample of physics teachers from various educational stages.

As a result, 80 physics teachers from across Lebanon participated in the survey. However, only 23 of them reported using MagicSchool.AI and thus proceeded to complete the section of the survey related to their attitudes toward the platform.

4.3 Data Collection Tools

A structured 5–8-minute duration questionnaire was developed in English and French languages and administered via Google Forms. The survey was created on March 20 then published on March 27 and remained open for responses for two weeks. As presented in the appendix, the questionnaire was structured into four sections and contained 23 closed-ended items, consisting of multiple-choice and Likert scale questions.

The survey began with a question: (*Have you ever used MagicSchool.AI in your physics teaching practices before?*)

Participants who answered "Yes" proceeded to complete the full survey, while those who answered "No" were directed to a confirmation page. This method ensured that data were collected only from teachers who had used MagicSchool.AI in their teaching practices, allowing them to describe their attitudes.

4.4 Validity

A pilot study was conducted to assess the internal validity of the survey. Initially, the questionnaire was reviewed by two physics experts from Lebanese University-Faculty of Deanery and peer reviewed by five colleagues to ensure the relevance and clarity of the questions. Based on the feedback, several items were revised to better align with the study's objective. Also, the translation of the survey was reviewed by two bilingual colleagues to ensure accuracy and clarity and revisions were made according to their feedback. Additionally, the revised questionnaire was tested on a group of five physics teachers from the target population for final adjustments before broader distribution.

4.5 Reliability

The questionnaire's reliability, as measured by Cronbach's alpha, was 0.773**,** indicating moderate internal consistency**.** However, reliability could be improved by removing the item *"Do you believe*

that AI tools like MagicSchool.AI can significantly improve physics education in Lebanon?", which would increase Cronbach's alpha to 0.805. Despite this potential improvement, the item was retained due to its relevance and importance in addressing the central focus of the study—the perceived impact of MagicSchool.AI on enhancing physics education in Lebanon**.**

4.6 Data Analysis

Data analysis was conducted using IBM SPSS Statistics, Version 23. The level of statistical significance was set at 5%, with a confidence level of 95%.

Descriptive statistics were employed to summarize the participants' responses across all items of the questionnaire, including the calculation of frequencies, percentages, means, and standard deviations to provide a comprehensive overview of the dataset. Also inferential statistics was applied to examine whether significant differences existed in teachers' attitudes based on their demographic information.

4.7 Ethical Considerations

Participants were informed by the research objective, the time required to complete it, and the confidentiality and anonymity of their responses.

5. Results

5.1 Starting Question

Figure 1

Starting Question

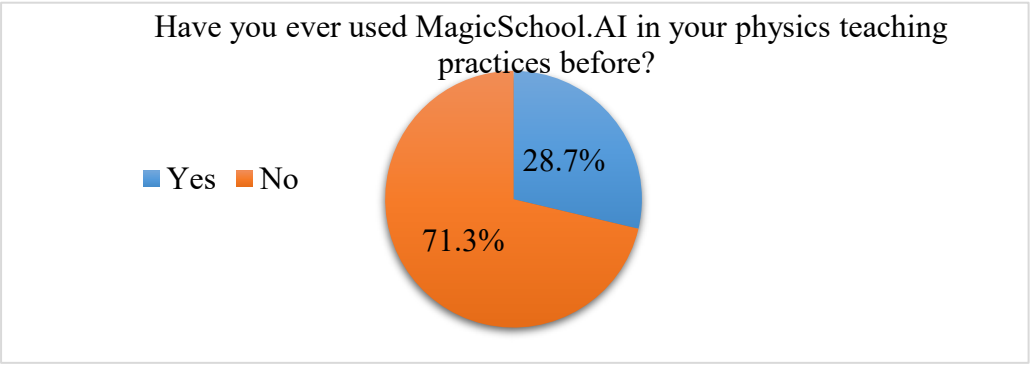

Figure 1 shows that only 28.7% (23 out of 80) of Lebanese physics teachers have used MagicSchool.AI before in their teaching, while 71.3% (57 out of 80) have not.

5.2 Section One: Demographics Information

Table 1

Demographic Information

		Frequency	Percentage
Gender	Male	16	69.6%
	Female	7	30.4%
Age	20-29	9	39.1%
	30-39	8	34.8%
	40-49	4	17.4%
	50 and above	2	8.7%
Experience year	Less than 5 years	6	26.1%
	6-10 years	10	43.5%
	11-20 years	4	17.4%
	21 years and above	3	13%
Languages used in teaching physics	English	18	78.3%
	French	1	4.3%
	Both	4	17.4%
Type of school	Public	3	13%
	Private	18	78.3%
	Both	2	8.7%
Educational system	Lebanese curriculum	23	100%
	American curriculum	2	8.7%
	IB curriculum	2	8.7%
	SABIS	0	0%
	British curriculum	0	0%
	French curriculum	0	0%

5.3 Section Two: The Use of MagicSchool.AI by Physics Teachers

Figure 2

Frequency of Using MagicSchool.AI

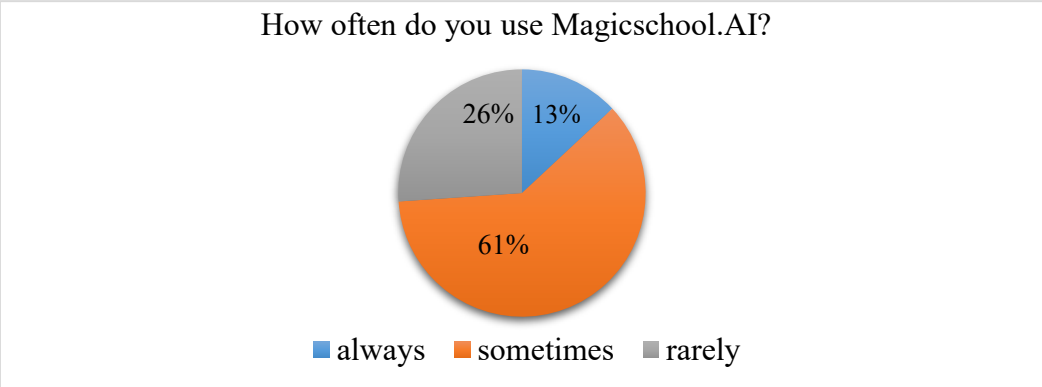

Figure 2 shows that 61 % of the physics teachers report using MagicSchool.AI (sometimes). This indicates a moderate level of integration of MagicSchool.AI into their teaching practices.

Figure 3

Purposes for Using MagicSchool.AI

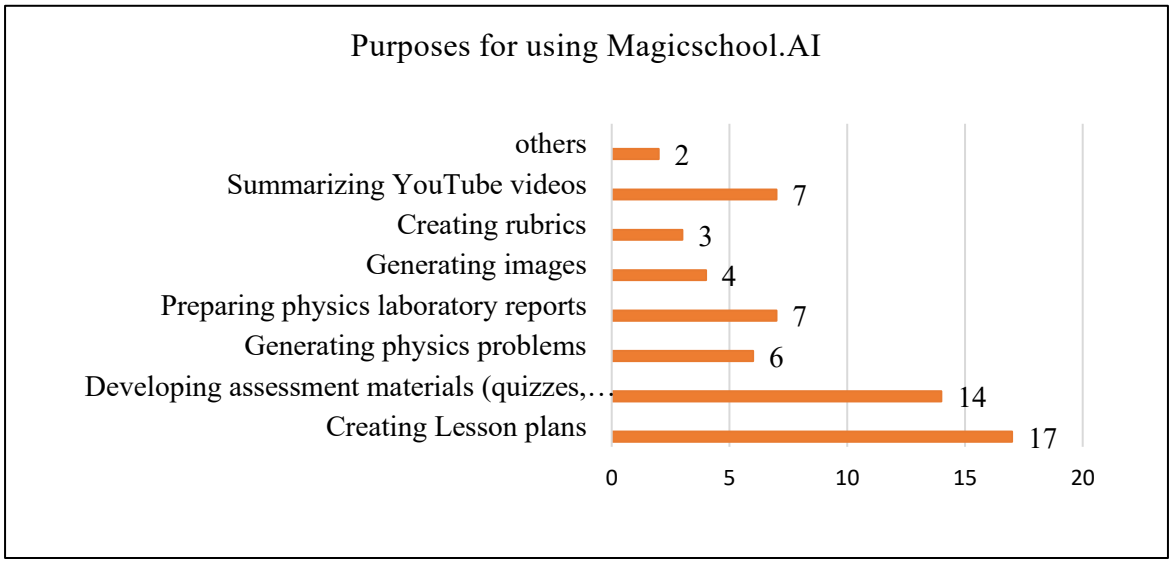

Figure 3 shows the frequency of the cited purposes: creating lesson plans (17 out of 23) and developing assessment materials such as quizzes and tests (14 out of 23), summarizing YouTube videos and preparing physics laboratory reports (7 out of 23) each. While generating physics problems (6 out of 23), generating images (4 out of 23), creating rubrics (3 out of 23), and others (2 out of 23): Generating jokes and creating lesson hook.

Figure 4

Reasons for Limited Use of MagicSchool.AI

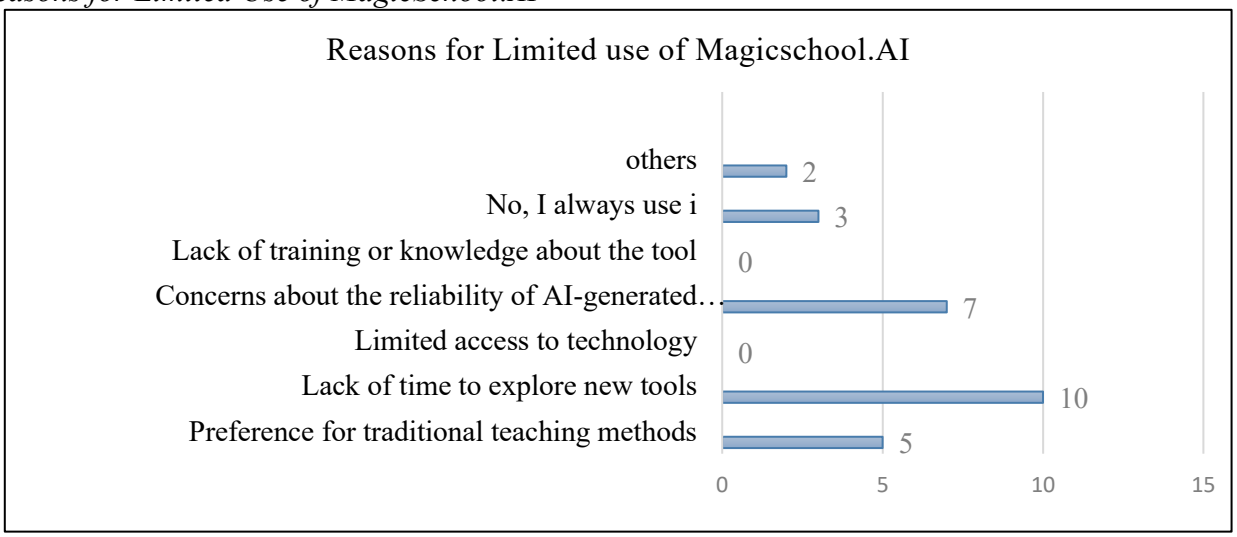

Figure 4 shows the frequency of the cited barriers: lack of time to explore new tools (10 out of 23), concerns about the reliability of AI-generated content (7 out of 23). Additionally, preference for

traditional teaching methods was cited by (5 out of 23). Also some reported always using the tool (3 out of 23) and the other reasons (2 out of 23): it's paid and relying on other platforms. Notably, no participants selected "lack of training or knowledge about the tool" or "limited access to technology" as reasons for limited use.

Table 2

Teachers' Attitudes Toward Using MagicSchool.AI

Teachers' Attitudes	Scale range	Midpoint	Average rating	Std deviation
1. Satisfaction with the ease of use Likert Scale: (1 = Very Dissatisfied, 2= Dissatisfied, 3= Satisfied, 4= Very Satisfied)	1-4	2.5	2.87 Positive attitude	1.014 High dispersion
2. Helping in saving time in lesson preparation Likert Scale: (1 = Not Helpful, 2 = Moderately Helpful, 3= Very Helpful)	1-3	2	2.26 Positive attitude	0.686 Low dispersion
3. Accuracy in the physics outputs Likert Scale: (1= Not Accurate, 2= Moderately Accurate, 3 = Very Accurate)	1-3	2	2.04 Positive attitude	0.475 Low dispersion
4. Relevance of the generated resources to Lebanese curriculum Likert Scale: (1 = Not Relevant, 2= Moderately Relevant, 3 = Very Relevant)	1-3	2	1.74 Negative attitude	0.689 High dispersion
5. Effectiveness in enhancing teaching practices Likert scale: (1= very ineffective, 2=ineffective, 3=effective, 4= very effective)	1-4	2.5	2.74 Positive attitude	0.864 Low dispersion

In table 2, teachers' attitudes toward the use of MagicSchool.AI are assessed based on the average rating in relation to the scale's midpoint: an average above the midpoint indicates a positive attitude, while an average below indicates a negative attitude. To evaluate the consistency of responses, standard deviation is used to measure dispersion—low dispersion (SD < Mean ÷ 3) reflects strong agreement among teachers, whereas high dispersion (SD > Mean ÷ 3) suggests greater variability and differing attitudes.

Table 2 reveals generally positive attitudes toward using MagicSchool.AI, with favorable ratings for ease of use (M = 2.87), effectiveness in enhancing teaching practices (M = 2.74), usefulness in saving time for lesson preparation (M=2.26), and accuracy of physics outputs (M = 2.04). However, a negative attitude was noted regarding the relevance of the generated resources to the Lebanese

curriculum. In terms of data dispersion, there is high variability in responses for ease of use (SD = 1.014) and curriculum relevance (SD = 0.689), indicating differing opinions, while low dispersion was observed for effectiveness (SD = 0.864), time-saving usefulness (SD = 0.686), and accuracy of physics outputs (SD = 0.475), reflecting greater consensus among teachers in these areas.

5.4 Section Three: Comparing MagicSchool.AI to Other AI Tools

Table 3

Comparing MagicSchool.AI with other AI tools

Comparing with other AI tools on:	Scale range	Midpoint	Average rating	Std deviation
1. Ease of use Likert Scale:(1 = Much Worse,2 = Slightly Worse 3 = About the Same 4 = Slightly Better 5 = Much Better)	1-5	3	3.52 Positive attitude	1.238 High dispersion
2. Physics features Likert Scale:(1 = Much Worse,2 = Slightly Worse 3 = About the Same 4 = Slightly Better 5 = Much Better)	1-5	3	3.17 Positive attitude	1.114 High dispersion
3. Quality of the generated physics content Likert Scale:(1 = Much Worse,2 = Slightly Worse 3 = About the Same 4 = Slightly Better 5 = Much Better)	1-5	3	3.17 Positive attitude	1.072 High dispersion
4. Enhancing students' conceptual understanding Likert Scale:(1 = Much Worse,2 = Slightly Worse 3 = About the Same 4 = Slightly Better 5 = Much Better)	1-5	3	3.17 Positive attitude	1.114 High dispersion

Table 3 teachers' attitudes by comparing MagicSchool.AI with other AI tools are assessed using the mean rating relative to the scale's midpoint (3). An average above 3 suggests a positive attitude, indicating that teachers view MagicSchool.AI as more effective than other AI tools; a score of exactly 3 reflects neutrality, showing no clear preference; while a score below 3 signals a negative attitude, implying that MagicSchool.AI is seen as less effective. To assess the consistency of these responses, standard deviation is used: a low standard deviation (SD < Mean ÷ 3) indicates strong consensus among teachers, whereas a high standard deviation (SD > Mean ÷ 3) reveals varied opinions and less agreement.

Table 3 shows that teachers generally view MagicSchool.AI more favorably than other AI tools, with mean ratings above the midpoint across all cited aspects: ease of use (3.52), physics-related features (3.17), quality of generated physics content (3.17), and support for enhancing students' conceptual

understanding (3.17). However, the relatively high standard deviations across all categories indicate notable variability in teachers' attitudes.

5.5 Section Four: Future Perspectives

Figure 5

Teachers' Willingness for Future Integration

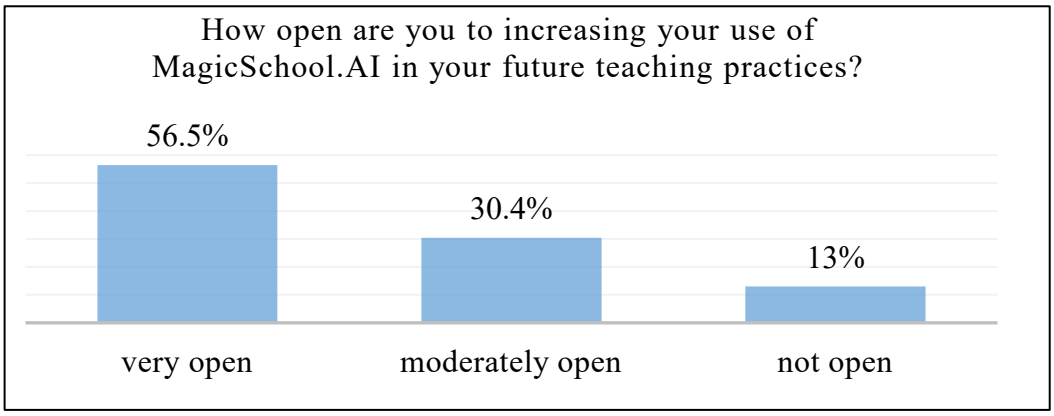

Figure 5 shows a generally positive attitude toward integrating MagicSchool.AI in future teaching, with 87 % of teachers expressing openness and 13% showing resistance.

Figure 6

Teachers' Perception of the Impact on Physics Education

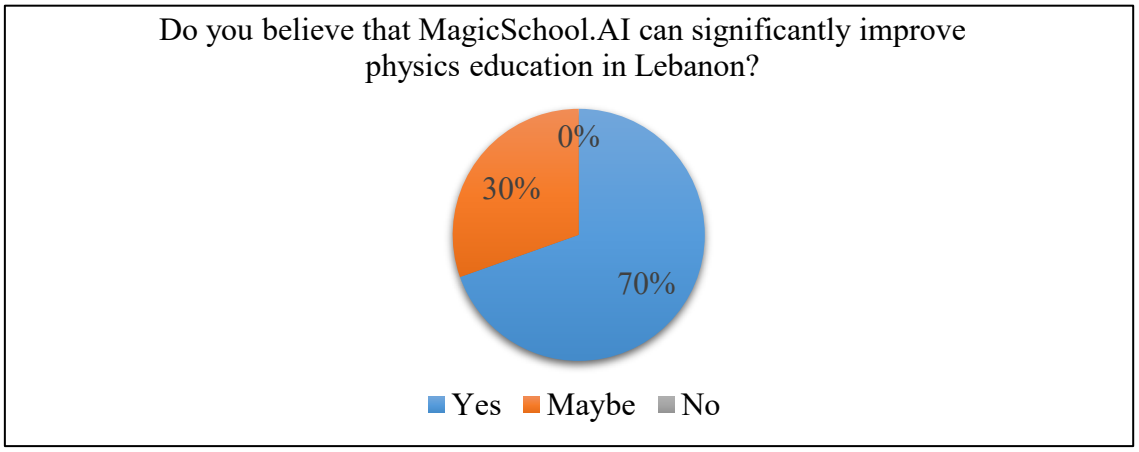

Figure 6 shows that 70% of the teachers believe that MagicSchool.AI can enhance physics teaching, while the remaining 30% are open to the possibility but remain uncertain. Notably, none of the respondents rejected the idea outright (0% answered "No").

Figure 7

Teachers' Willingness for Training Sessions

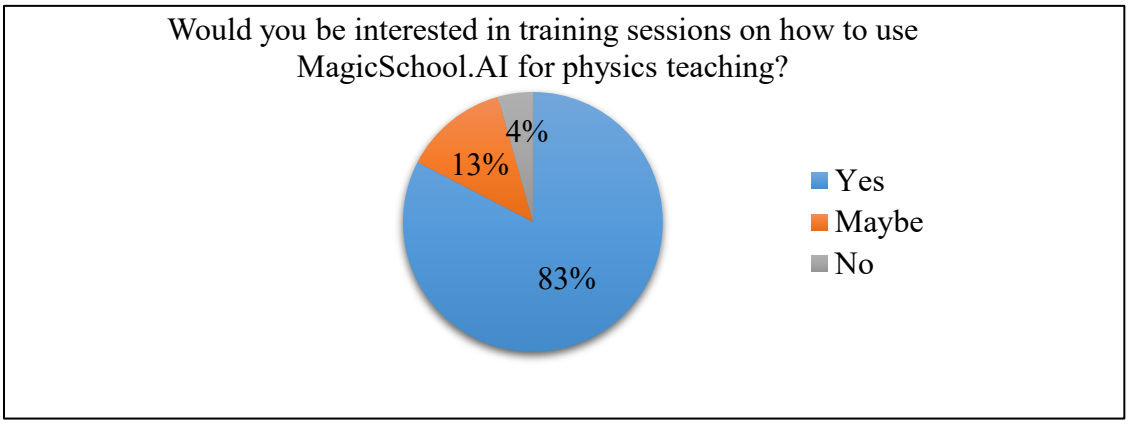

Figure 7 highlights strong teacher interest in training on MagicSchool.AI, with 83% willing to attend, 13% uncertain, and only 4% not interested.

Table 4

Teachers' Answers of the Open Ended Question

What features would you like to see added to MagicSchool.AI to better support physics teaching in Lebanon? (not obligatory question)
Lebanese curriculum
Curriculum based content (chatgpt catches this), wider choices and abilities, i wouldnt like the fact that it is specialised in.education to be limiting to its abilities
More targetted simulations
I would like to see read made powerpoints, simulations, sample activities
Simulations
Enhance the laboratory tools that help students to understand the physics topics specially in the lesson Mechanics and electricity
null
Lebanese curriculum
Ajouter des fonctionalités qui peuvent gerer Les simulations ecrites sous java
Free accounts for teachers

Note: These are the teachers' answers to the open-ended question, presented without any modifications.

5.6 Inferential Statistics Results

According to the Shapiro-Wilk test, the data are not normally distributed (p-value < $\alpha = 0.05$), thus non-parametric independent tests were applied to examine whether significant differences existed in teachers' attitudes based on their demographic characteristics.

Statistically significant differences were found in attitudes toward MagicSchool.AI based on teaching experience, age, and gender, but not by curriculum type, school type, or language of instruction.

- Experience: Teachers with 6–10 years of experience showed the highest satisfaction in ease of use ($p = 0.009$), time-saving ($p = 0.031$), and teaching enhancement ($p = 0.028$). Those with 11–20 years ranked highest in improving students' conceptual understanding ($p = 0.047$), while teachers with over 21 years ranked highest in perceiving an impact on physics education ($p = 0.033$) and workshop interest ($p = 0.002$).
- Age: Teachers aged 20–29 had the highest ratings for output accuracy ($p = 0.044$), while the 30–39 group rated highest for curriculum relevance ($p = 0.033$) and teaching enhancement ($p = 0.012$).
- Gender: Female teachers reported significantly higher satisfaction with ease of use ($p = 0.021$), curriculum relevance ($p = 0.033$), and teaching enhancement ($p = 0.001$). They also favored MagicSchool.AI over other AI tools in terms of usability ($p = 0.017$), physics-specific features ($p = 0.044$), and support for students' understanding ($p = 0.017$).

5.7 Summary of Findings

This study reveals that only 28.7% of Lebanese physics teachers currently use MagicSchool.AI, primarily for lesson planning and assessment development. The main barriers to adoption are limited time and concerns about AI-generated content reliability. Despite these barriers, teachers generally hold positive attitudes toward the platform, citing its ease of use, effectiveness, and time-saving potential, though they express reservations about its alignment with the Lebanese curriculum. MagicSchool.AI is favored over other AI tools for its usability, physics-specific features, and support for conceptual understanding. A strong 87% of teachers are open to future integration, and 83% are keen on training. Notably, attitudes vary significantly by teaching experience (6-10 years), age (20-29), and gender (females). Teachers suggested improvements like better curriculum alignment and more targeted simulations to enhance the platform's utility in Lebanese physics education.

6. Discussion

The study's findings directly address the research objective, which sought to examine the attitudes of Lebanese physics teachers toward the use of MagicSchool.AI. While only 28.7% of teachers currently utilize the platform, predominantly for lesson planning and assessment development. The hypothesis of the study was: *"Lebanese physics teachers have positive attitudes toward the use of MagicSchool.AI in their teaching practices."* The data collected partially support this hypothesis. Teachers generally expressed positive attitudes regarding MagicSchool.AI's ease of use, perceived effectiveness, and potential for time-saving. This indicates an acknowledgment of the platform's intrinsic benefits and a favorable disposition towards its capabilities. However, the relatively low rate

of current adoption suggests that while attitudes may be positive in principle, practical impediments such as limited time and concerns regarding the reliability of AI-generated content substantially impede widespread implementation. Furthermore, the high percentages of teachers indicating openness to future integration (87%) and a strong desire for training (83%) strongly imply an underlying positive inclination and a willingness to adopt the tool, provided these aforementioned barriers are adequately addressed. The documented preference for MagicSchool.AI over other AI tools, based on its usability and physics-specific features.

In conclusion, while the study confirms that Lebanese physics teachers recognize the advantages of MagicSchool.AI and demonstrate a general willingness to engage with it, the findings underscore a disparity between positive attitudes and broad current adoption. This suggests that positive attitudes alone are insufficient for comprehensive integration; rather, addressing practical concerns and providing targeted professional development are critical prerequisites for fostering wider adoption.

7. Limitations

This study has several limitations, including a small sample size with only 23 users of MagicSchool.AI, limiting generalizability. Data collection relied solely on questionnaires, which may not fully capture teacher attitudes. Its cross-sectional design prevents assessment of causal relationships or changes over time. Additionally, the lack of complementary data sources, such as classroom observations or student performance, limits conclusions about the tool's impact on teaching effectiveness and learning outcomes.

8. Recommendations

Future research should involve larger, more diverse samples and utilize mixed methods to gain deeper insights into the evolution of teacher attitudes and practices. Experimental studies comparing classrooms that use MagicSchool.AI with those that do not would help clarify its effects on student outcomes. Additionally, offering teachers training prior to administering attitude surveys is recommended to ensure more informed and accurate responses.

9. Conclusion

This study provides valuable insights into the use of MagicSchool.AI, in physics education by Lebanese teachers. While teachers hold generally positive attitudes towards the platform, appreciating its ease of use, efficiency, and time-saving potential, actual adoption is currently low (28.7%). This gap highlights significant barriers, notably limited time and concerns about AI-generated content reliability, alongside a need for better curriculum alignment. Despite these challenges, the strong

desire for future integration and training underscores teachers' willingness to embrace AI. By addressing these practical and contextual factors, educational stakeholders in Lebanon can effectively leverage the positive attitudes of physics teachers to facilitate a more robust and impactful integration of AI tools like MagicSchool.AI, ultimately contributing to the advancement of physics education in Lebanon.

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Appendix

	Question	Response Type
Starting question	Have you ever used MagicSchool.AI in your physics teaching practices before?	Dichotomous (Yes/No) (If they answer "Yes", they will proceed to complete the survey. If they answer "No", they will confirm and exist the survey.)
Section 1: Demographic Information	Q1:Gender	Multiple choice (male/female)
	Q2:Age	Multiple choice ([20-29], [30,39],[40,49], [50 and above])
	Q3:Experience years in Teaching Physics:	Multiple choice ([1-5],[6-10],[11,20].[21and above])
	Q4:Language(s) you use in teaching physics	Multiple choice: (English, French, Both)
	Q5:Type of school you teach at	Multiple choice: (Public, Private, Both)
	Q6:Educational system you teach	Multiple choice: (Lebanese curriculum, American curriculum, International Baccalaureate (IB), SABIS, French curriculum, British curriculum)
Section 2: Use of MagicSchool.AI by Physics teachers	Q1:How often do you use MagicSchool.AI?	**3 point scale** (always, sometimes, rarely)
	Q2:For what purposes do you use MagicSchool.AI?	**Multiple choice**: (Creating Lesson plans, Developing assessment materials quizzes, tests, Generating physics problems, Preparing physics laboratory reports, Generating images, Creating rubrics, Summarizing YouTube videos, others)
	Q3: If you don't always use MagicSchool.AI, what are the primary reasons for your limited use?	**Multiple choice:** (Preference for traditional teaching methods, Lack of time to explore new tools, Limited access to technology, Concerns about the reliability of AI-generated content, Lack of training or knowledge about the tool, No, I always use it, others)
	Q4: How satisfied are you with the ease of use of MagicSchool.AI	**Likert Scale**: (1 = Very Dissatisfied, 2= Dissatisfied, 3= Satisfied, 4= Very Satisfied)
	Q5: How helpful is MagicSchool.AI in saving you time in lesson preparation?	**Likert Scale:** (1 = Not Helpful, 2 = Moderately Helpful, 3= Very Helpful)
	Q6: How accurate are the physics-related outputs generated by MagicSchool.AI?	**Likert Scale:** (1= Not Accurate, 2= Moderately Accurate, 3 = Very Accurate)
	Q7: How relevant are the generated resources by MagicSchool.AI to the Lebanese physics curriculum?	**Likert Scale**: (1 = Not Relevant, 2= Moderately Relevant, 3 = Very Relevant)
	Q8:How do you rate the effectiveness of MagicSchool.AI in enhancing your teaching practices?	**Likert scale**: (1= very ineffective, 2=ineffective, 3=effective, 4= very effective)
Section 3: Comparing MagicSchool.AI to Other AI Tools	Q1: Compared to other AI tools you have used; how do you rate MagicSchool.AI in terms of its ease of integration into your teaching workflow?	**Likert Scale:**(1 = Much Worse,2 = Slightly Worse 3 = About the Same 4 = Slightly Better 5 = Much Better)
	Q2: Compared to other AI tools you have used; how do you rate MagicSchool.AI in terms of its physics-specific features?	**Likert Scale:** (1 = Much Worse,2 = Slightly Worse 3 = About the Same 4 = Slightly Better 5 = Much Better)
	Q3: Compared to other AI tools you have used; how do you rate the quality of the generated physics content from MagicSchool.AI?	**Likert Scale**: (1 = Much Worse,2 = Slightly Worse 3 = About the Same 4 = Slightly Better 5 = Much Better)
	Q4: Compared to other AI tools you have used; how do you rate MagicSchool.AI in enhancing students' conceptual understanding in learning physics?	**Likert Scale**: (1 = Much Worse,2 = Slightly Worse 3 = About the Same 4 = Slightly Better 5 = Much Better)
Section 4: Future Perspectives	Q1: How open are you to increasing your use of MagicSchool.AI in your future teaching practices?	**Likert scale**: (1= Not open at all, 2= Moderately open, 3=Very open)
	Q2: Do you believe that MagicSchool.AI can significantly improve physics education in Lebanon?	**Multiple choice**: (Yes, No, Maybe)
	Q3: Would you be interested in participating in workshops or training sessions on how to effectively use MagicSchool.AI for physics teaching?	**Multiple choice**: (Yes, No, Maybe)
	Q4: What features would you like to see added to MagicSchool.AI to better support physics teaching in Lebanon?	**Open-ended response** (not obligatory)