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The Impact of Teacher Attitudes and Beliefs on the Integration of Gamified Learning: A Study of Key Attitudinal Variables

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Abstract. The present study aims to explore the perspectives of educators in Saudi Arabia regarding the implementation of gamified learning approaches and their impact on the incorporation of gamified elements within educational environments, specifically emphasizing student engagement. A comprehensive dataset was obtained from a heterogeneous sample of educators hailing from the Kingdom of Saudi Arabia (KSA) by employing a rigorous quantitative research methodology. The study used a questionnaire survey to collect data from 100 teachers. The findings of this study unveiled an encouraging inclination among these teachers toward adopting gamified pedagogical techniques as an effective means of instruction. This study elucidated a robust association between positive teacher attitudes and the successful incorporation of gamified elements within instructional frameworks, leading to heightened levels of student involvement. While the experience of teachers certainly plays a role, it is important to acknowledge that the influence of positive attitudes towards gamification outweighs this factor. The results of this study highlighted the profound impact that gamified learning can have on promoting student engagement, underscoring its potential to bring about transformative changes in the educational landscape. Furthermore, these findings emphasized the critical role of cultivating positive teacher attitudes in ensuring the successful integration of gamified learning strategies.

Keywords: educational innovation; gamified learning; student engagement; teacher attitudes

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1. Introduction

To increase students' interest, motivation, and participation in class, educators globally are turning to gamified learning (Deterding et al., 2011; Hamari et al., 2014; Steinkuehler & Duncan, 2008). Because educational reform is regarded as so important in the Kingdom of Saudi Arabia, there has been an uptick in the use of gamified learning strategies in the classroom. This trend aligns with widespread worldwide tendencies to use instructional technology (Elyas & Badawood, 2016; Ministry of Education, Saudi Arabia, 2020). Because teachers play such a pivotal role in putting gamified learning strategies into practice, it is crucial to learn more about their perspectives as this educational revolution unfolds (Rasheed et al., 2020).

The major purpose of this research is to analyze how educators' perspectives affect the diffusion of game-based learning in Saudi Arabian classrooms. Specifically, the study focuses on the importance of positive attitudes in this integrating process. Educators' propensity to adopt and implement innovative teaching techniques is significantly influenced by their attitudes and outlooks toward such innovations (Sagnier et al., 2020). Understanding the beliefs and attitudes of Saudi Arabian teachers about gamified learning is crucial for its successful implementation in the country. To integrate this novel pedagogical strategy successfully into the educational system of the nation, this understanding is vital.

There has been a great deal of talk about how gamified learning may completely change the educational landscape in Saudi Arabia. However, the ideas and attitudes of teachers are crucial to the successful implementation of this new method. Reputable teachers disseminate innovative approaches to teaching globally (Akram et al., 2021). The issue under discussion has two sides. Firstly, it is important to know how Saudi Arabian teachers generally feel about using game-based learning techniques in the classroom. In addition, it is crucial to look into the nuanced ways in which these attitudes and beliefs affect the adoption and inclusion of gamified learning within Saudi Arabia's educational environment.

Saudi Arabia is working hard to modernize and innovate its educational system as part of its far-sighted Vision 2030 programme (Vision 2030, 2020). In recent years, gamified learning has seen a meteoric rise in the popularity of educational approaches that incorporate gaming elements naturally into the world of education. In line with the current global trends in the deployment of educational technology, gamified learning has emerged as a viable strategy to increase student involvement, motivation, and academic results (Hamari et al., 2014).

There has been a recent uptick in the use of gamified learning approaches in Saudi Arabia's elementary, secondary, and even higher education institutions. As shown by the recent efforts of the Ministry of Education in Saudi Arabia (2020), many schools are presently on a path to include gamified components in their instructional methods. The widespread belief that gamified learning may help solve the many problems plaguing the Saudi Arabian educational system has contributed to its meteoric rise in popularity. Elyas and Badawood (2016) note

that the need for more dynamic and participatory teaching techniques is at the centre of these difficulties.

Educators' pre-existing views and mindsets will determine how successful gamified learning will be in Saudi Arabian schools. Educators have a vital role in the effective integration of innovative pedagogical techniques, and they hold a prominent position in the sphere of educational dissemination (Lin, 2022; Sagnier et al., 2020). When it comes to closing the gap between theoretical research and real-world application in the classroom, teachers play a catalytic role.

This study set out to address a major issue with two sides. To begin, it is crucial to comprehend fully how Saudi Arabian instructors feel about using game-based learning strategies in the classroom. The current research delved into educators' views on the effectiveness of gamified learning, exploring both the positive and negative perspectives. Additionally, it aims to gauge educators' openness to introducing game mechanics into their lesson plans. How receptive are teachers to this innovative approach, or do they often show scepticism or hesitation? The determination of these beliefs is crucial since they may either help or hamper the blending process (Ajzen, 2020). Next, the study examined how preconceptions and assumptions held by educators in Saudi Arabian classrooms affect students' access to and engagement with gamified instruction. Does a teacher's level of enthusiasm for gamified learning predict how well they'll be able to incorporate it into their lessons? On the other hand, are teachers who tend to be pessimistic more likely to avoid or struggle with carrying out the adoption of such a strategy? Educational policymakers and institutions must have a thorough understanding of this impact to facilitate the efficient adoption of gamified learning (Rasheed et al., 2020).

1.1 Questions of the Study

1. How do educators in Saudi Arabia perceive and approach the integration of gamified learning strategies within educational environments?
2. What impact do educators' attitudes and beliefs towards gamified learning have on the adoption and successful implementation of gamified elements within instructional frameworks?
3. To what extent do educators' attitudes, beliefs, and experiences influence the levels of student engagement when gamified learning strategies are employed in classroom settings?

1.2 Significance of the Study

The findings of this study provide valuable insight into the perspectives of educators on gamified learning, which is of great importance to educational authorities both in Saudi Arabia and globally. Integrating innovative pedagogical practices with educational reform objectives is a central tenet. The study determines how educators perceive and utilize gamified learning when designing targeted professional development programmes for them. Teachers' positive attitudes are crucial to the effective application of gamified learning methods, according to this study.

By highlighting the impact of instructors' attitudes on student engagement, this study demonstrates that gamified learning has the potential to revolutionize the way schools function, potentially resulting in improved grades and more student engagement. This study's findings have the potential to make schools more receptive to new ideas by incorporating game mechanics into teacher training programmes and educational technologies.

2. Literature Review and Previous Studies

The integration of game elements into educational environments, known as gamified learning, represents a cutting-edge pedagogical strategy aimed at amplifying student engagement, motivation, and academic achievements (Deterding et al., 2011; Hamari et al., 2014; Wu et al., 2023). The incorporation of game elements, such as points, badges, leaderboards, and challenges, within educational settings has been observed as a means to enhance the interactive and enjoyable aspects of the learning process (Steinkuehler & Duncan, 2008).

A plethora of scholarly investigations have shed light on the advantageous aspects of incorporating gamified learning methodologies. Extensive research conducted by Hanus and Fox (2015) has demonstrated the positive impact of this particular approach on student motivation. Furthermore, Anderson (2010) have found compelling evidence supporting its ability to enhance knowledge retention. Additionally, Sailer et al. (2017) have highlighted the significant role it plays in cultivating collaboration and problem-solving skills among students. The integration of gamified learning methodologies is following constructivist learning theories, as it fosters dynamic participation and facilitates experiential learning (Deterding et al., 2011).

Although gamified learning undoubtedly presents numerous benefits, it is not exempt from encountering certain obstacles. There is a notable segment of educators who harbour apprehensions regarding the possibility of diversions, as highlighted by Hamari et al. (2014). They emphasize the necessity for meticulous instructional design to achieve educational goals effectively, as underscored by Deterding et al. (2011). Hence, it becomes imperative to scrutinize the perspectives and convictions held by educators regarding the utilization of gamified learning as these elements possess the potential to impact its efficacious integration.

The influential role of teacher attitudes and beliefs in the assimilation of novel pedagogical approaches, such as gamified learning, has been widely acknowledged in scholarly literature (Akram et al., 2021; Sagnier et al., 2020). The concept of attitudes pertains to the comprehensive sentiments or assessments that teachers possess towards gamified learning, whereas beliefs encompass their perceptions and anticipations regarding its effectiveness (Ajzen, 2020; Hafez et al., 2023).

Numerous scholarly investigations have successfully delineated a plethora of factors that exert a discernible impact on the attitudes of educators towards the integration of technology in their pedagogical practices. The factors under consideration encompass perceived usefulness, perceived ease of use as posited

by Sagnier et al. (2020), as well as teacher self-efficacy and professional development opportunities as expounded by Akram et al. (2021).

The Kingdom of Saudi Arabia has acknowledged the immense potential inherent in the integration of gamified learning within its comprehensive educational reform endeavours. The esteemed Ministry of Education in the Kingdom of Saudi Arabia has taken commendable measures to introduce avant-garde programmes aimed at integrating cutting-edge technology and fostering a culture of innovation within the educational framework (Ministry of Education, Saudi Arabia, 2020). The integration of gamified learning is in perfect harmony with the overarching goal of promoting educational progress.

Numerous scholarly inquiries have been conducted to scrutinize the assimilation and ramifications of technological advancements within the realm of education in the Kingdom of Saudi Arabia. In a notable study by Elyas and Badawood (2016), an investigation was undertaken to explore the assimilation of e-learning within Saudi universities. The findings of this research revealed a noteworthy correlation between the attitudes and technological competencies of faculty members, and their propensity to embrace e-learning methodologies. Furthermore, the scholarly inquiry conducted by Rasheed et al. (2020) delved into the intricate realm of Saudi Arabian educators' perspectives regarding the integration of gamified learning platforms within their pedagogical practices. The research findings underscored the imperative of providing educators with opportunities for continuous growth and skill development, specifically concerning addressing their apprehensions and bolstering their self-assurance in the utilization of gamified educational resources.

3. Methods

This study adopted a quantitative research methodology to systematically explore the attitudes and beliefs held by educators in Saudi Arabia regarding gamified learning, as well as the impact of these attitudes on the implementation of gamified learning strategies within classroom settings. The present study encompassed a diverse cohort of educators operating within the educational landscape of Saudi Arabia, spanning multiple tiers of instruction, namely primary, secondary, and tertiary levels. A purposive sampling technique was thoughtfully employed to ensure a comprehensive and representative sample that encompasses the diverse regions and educational settings within Saudi Arabia. The research's findings are more reliable and comprehensive because of the methodical and thorough approach used in selecting study participants.

To collect this information, an online survey was used that was strategically distributed to a carefully chosen sample of educators. The survey was created to measure crucial personality traits concerning gamified education. Attitudes on technology's usefulness and ease of use were also studied as independent factors. The survey also inquired as to how familiar the educators were with gamified pedagogy, as well as their present approaches to incorporating gamification components into their instructional techniques.

The survey responses underwent rigorous analysis through the application of various quantitative data analysis techniques. Researchers used descriptive statistics such as means and standard deviations to gain a complete understanding of participants' perspectives on gamified learning. These statistical measures were utilized to succinctly summarize and quantify the attitudes and beliefs expressed by the participants. A comprehensive correlation analysis was conducted to investigate the intricate interrelationships among the attitudinal variables under scrutiny. Furthermore, a comprehensive multiple regression analysis was undertaken to ascertain the key factors influencing the integration of gamified learning. The data analyses were conducted utilizing advanced statistical software, which facilitated the exploration and interpretation of the dataset.

4. Results

This study set out to explore the perspectives of educators in Saudi Arabia regarding the implementation of gamified learning approaches and their impact on the incorporation of gamified elements within educational environments, specifically emphasizing student engagement. The following tables present the results.

Table 1: Descriptive statistics for teacher attitudes towards gamified learning

Variable	Mean	Standard deviation
Perceived usefulness	4.25	0.75
Perceived ease of use	4.10	0.82
Attitude towards gamification	4.35	0.68

Table 1 provides a summary of descriptive information about teachers' opinions on using gamified instructional approaches. The average ratings are helpful since they show the general trend of these opinions. The statistical research shows that educators give gamified learning an average score of 4.25 on the scale of perceived usefulness, indicating that they find it to be a very useful tool in their classrooms. According to the data, a "Perceived Ease of Use" score of 4.10 is the norm. This finding suggests that teachers regard gamified learning as a simple tool to add to their curriculum. A noteworthy mean score of 4.35 was found for "Attitude towards Gamification". This result implies that, on the whole, teachers are open to the idea of using gamified elements in the classroom.

Table 2: Descriptive statistics for gamified learning integration

Variable	Mean	Standard deviation
Integration in lesson plans	3.90	0.70
Frequency of integration	3.75	0.68
Student engagement	4.15	0.73

The second table presents an extensive collection of descriptive data on the use of gamified learning in academic settings. It turns out that 3.90 is the mean score for how well integration is planned into lessons. Educators have indicated a modest amount of using gamified learning aspects in their lessons, which is consistent with this conclusion. After running the numbers, it appears that 3.75 is the mean

score for "Frequency of Integration". As a result of this finding, it may be concluded that the incorporation of game mechanics into textbooks and other forms of instructional content occurs with a respectable regularity. Statistical testing shows that overall student satisfaction with the course is relatively high, averaging out to a 4.15. This significant number suggests that teachers are correct in reporting that gamified learning is an excellent method for generating enhanced student involvement in the classroom.

Table 3: Descriptive statistics for teacher experience and exposure

Variable	Mean	Standard deviation
Years of teaching	8.5	4.2
Gamified learning experience	2.9	1.1

The descriptive statistics of instructors' backgrounds and familiarity with the cutting-edge pedagogical strategy of gamified learning are shown in Table 3. The sampled educators had, on average, 8.5 years of experience in the classroom, according to the computed mean of the "Years of Teaching" variable. Indicative of educators' observable familiarity with gamified learning methods, the estimated mean for the "Gamified Learning Experience" is 2.9. Positioned along a scale, this score represents a commonplace middle ground of competence.

Table 4: Correlation analysis between teacher attitudes and gamified learning integration

	Perceived usefulness	Perceived ease of use	Attitude towards gamification
Integration in lesson plans	0.63	0.56	0.71
Frequency of integration	0.58	0.61	0.68
Student engagement	0.70	0.67	0.75

Instructors' perceptions of gamified learning's usefulness, ease of use, and overall attitude, as shown in Table 4, are positively correlated with several aspects of gamified learning's implementation, including "Integration into Lesson Plans", "Frequency of Implementation", and "Student Engagement". A moderately strong relationship is shown by a correlation value of 0.63 between "Perceived Usefulness" and "Integration in Lesson Plans". What this means is that teachers who think gamified learning is helpful are more likely to include it in their lessons.

Furthermore, a somewhat positive relationship seems to exist between "Perceived Ease of Use" and "Frequency of Integration" (0.61 correlation coefficient). This indicates that teachers who find gamified learning to be more approachable are more likely to include it in their daily lessons. The high positive correlation of 0.75 between "Gamification Attitude" and "Student Engagement" indicates a strong connection between the two variables. This study suggests that instructors with a more optimistic outlook on the potential of gamification in the classroom will also be more likely to see elevated levels of student engagement when using gamified learning strategies.

Table 5: Correlation analysis between teacher experience and gamified learning integration

	Years of teaching	Gamified learning experience
Integration in lesson plans	0.42	0.37
Frequency of integration	0.36	0.39
Student engagement	0.47	0.43

Data on the relationships between teacher experience (as measured by "Years Taught" and "Gamified Learning Experience") and gamified learning integration (as measured by "Integration in Lesson Plans", "Integration Frequency", and "Student Engagement") are presented in Table 5. There seems to be a positive relationship between years of teaching experience and the degree of integration shown in lesson plans (0.42 correlation). Educators with more years under their belts are more likely to include game-based learning tactics in their lesson plans, as shown by this data. In addition, the somewhat positive correlation of 0.43 between "Gamified Learning Experience" and "Student Engagement" suggests that the two are related in some way. These results imply that teachers who have experience with gamified instruction are more likely to notice an uptick in student interest when using such methods.

Table 6: Multiple regression analysis for gamified learning integration

Variable	Beta coefficient	Standard error	p-value
Perceived usefulness	0.43	0.08	<0.001
Perceived ease of use	0.35	0.09	0.003
Attitude towards gamification	0.51	0.07	<0.001

Table 6 displays the results of a multiple regression analysis that looked at factors to be considered in the implementation of gamified education. In this study, the focus is on a composite score that indicates how well gamified learning has been implemented. There is a significant positive correlation between using gamified learning and "Perceived Usefulness" (beta = 0.43), with p 0.001. This research suggests that teachers who have a favourable impression of the benefits of gamified learning are more likely to incorporate it into their practices.

There is a significant positive correlation between the incorporation of gamified learning and "Perceived Ease of Use" (0.35 beta coefficient, p = 0.003). This shows that instructors who see gamified learning as more approachable will be more effective at incorporating it into their classrooms. There is a strong positive correlation between "Attitude towards Gamification" and the use of gamified learning (p 0.001), as shown by the variable's beta value of 0.51 (highest among all variables considered). This demonstrates the critical role that teachers' attitudes toward gamified learning play in facilitating its implementation.

Table 7: Multiple regression analysis for student engagement

Variable	Beta coefficient	Standard error	p-value
Attitude towards gamification	0.57	0.10	<0.001
Student engagement (baseline)	-	-	-

The elements that affect students' engagement within the gamified learning framework are investigated in Table 7 of the multiple regression analysis. In this study, student engagement is the independent variable against which all others are measured. With a beta value of 0.57, the attitude towards the gamification variable is significantly (p 0.001) positively associated with student engagement. This demonstrates how important teachers' positive attitudes toward gamified learning are for increasing participation.

5. Discussion

5.1 Teacher Attitudes and Gamified Learning Integration

Findings from this study corroborate previous studies that highlight the potential benefits of gamified learning and show that teachers have positive attitudes towards it. These perspectives play an important role in determining the success of gamified learning and should be given special consideration in educational efforts (Deterding et al., 2011; Hamari et al., 2014).

In recent years, gamified learning has gained popularity as a teaching method with the potential to increase students' interest in and commitment to their studies (Sailer et al., 2017). Particular emphasis is placed here on the relevance of teachers' attitudes toward gamified learning. According to the results of this study, educators in Saudi Arabia have a generally positive attitude toward the use of gamification in their classrooms. This is seen by the high average scores given for perceived usefulness (4.25), perceived ease of use (4.10), and attitude towards gamification (4.35).

The strong correlations between educators' positive views of gamified learning and its adoption highlight the significance of these perspectives. The positive associations between perceived usefulness, perceived ease of use, and attitude towards gamification and their respective impacts on integration aspects, such as integration in lesson plans, frequency of integration, and student engagement, are shown by the correlation coefficients presented in Table 4. In light of the aforementioned connections (Akram et al., 2021; Sagnier et al., 2020), it is clear that positive attitudes play a significant role in easing the adoption of gamified components.

The findings of a multiple regression analysis are shown in Table 6, which helps us comprehend how educators' mindsets affect the spread of gamified learning. A beta value of 0.51 indicates that the attitude toward gamification was the most influential factor, outweighing other features such as perceived benefit and ease of use. This result is consistent with earlier academic studies (Akram et al., 2021; Teo, 2011) that stress the importance of teachers' perspectives and attitudes in the use of technology.

The implications of this research for educators and politicians in Saudi Arabia and elsewhere are enormous. According to Ajzen (2020), it is crucial to help teachers acquire a positive outlook on gamified learning via targeted professional development and training programmes. Steinkuehler and Duncan (2008) argue

that gamified learning has the potential to improve academic outcomes and boost student engagement in the classroom.

Recent developments in instructional technology, according to a study by Deterding et al. (2011), support the positive attitudes reported in this research. One such development is the proliferation of gamified learning platforms and the incorporation of game mechanics into traditional course materials. Educators now have access to a plethora of gamified tools and resources that may help them become more effective in the classroom (Hamari et al., 2014). More schools might use gamified education if these advancements were acknowledged and included in teacher preparation programmes.

The positive views held by educators concerning the application of gamified learning methodologies are in line with the goals of the Saudi Arabian Vision 2030 initiative, which is worth highlighting in and of itself. Fostering innovation and incorporating technology into the field of education are two of the programme's primary goals (Vision 2030, 2020). The Saudi Arabian Ministry of Education (2020) recognizes the value of educators and their dedication to helping students succeed in meeting the country's educational goals via the use of novel methods such as gamified learning.

5.2 Teacher Experience and Gamified Learning Integration

This research seeks to better understand how teachers' prior knowledge of and experience with gamified learning could influence their adoption of this innovative approach to education. This study sheds light on the intricate connection between teaching experience and the uptake of novel pedagogical strategies. Recent academic study in the field of educational technology and pedagogy delivers substantial contributions that need expansion.

Table 5 shows that there is a modest positive link between teacher experience and the use of gamified features in the classroom ($r = 0.42$). The utilization of game-based learning environments is also correlated positively with student engagement ($r = 0.43$). These findings point to the possibility that student engagement might be boosted by exposure to gamified learning experiences and that more experienced instructors are more likely to include gamified components in their teaching techniques. Other studies that have examined the impact of teacher experience on the adoption of technology have shown similar linkages to those discussed above.

Recent studies (Akram et al., 2021; Teo, 2011) have highlighted the importance of teachers' years of experience in shaping their pedagogical strategies and openness to new forms of technology integration in the classroom. Teachers with years of experience usually have a firm grasp on classroom management and a wealth of pedagogical knowledge, making it easy for them to adopt new methods of teaching seamlessly (Akram et al., 2021).

The positive benefits of gamified learning for both teachers and students are shown by the correlation coefficient of 0.43 between the adoption of gamified learning techniques and student engagement. Educational technology has

advanced to the point that teachers may access a wide variety of gamified learning platforms and resources (Hamari et al., 2014). Rasheed et al. (2020) claim that this kind of exposure may provide teachers with the skills and confidence they need to use gamified elements effectively in their lessons, leading to more engaged students.

As can be seen in Table 6, results from the multiple regression analysis demonstrate that although teacher experience is important, the impact of teachers' attitudes remains stable in connection to the deployment of gamified learning. The results of the research showed that the opinions of teachers mattered significantly in establishing gamification's efficacy. The results suggest that instructors' familiarity with gamified learning and their level of expertise in the classroom are both necessary for the successful implementation of gamification strategies. However, they are not sufficient on their own to ensure success. Teachers with positive outlooks on gamified education and relevant classroom expertise are essential for a smooth transition.

5.3 Student Engagement and Gamified Learning

The results of this study emphasize the potential benefits of gamified learning on students' interest in class participation. The research shows a substantial positive connection (0.75) between teachers' perceptions of gamification and their students' levels of involvement (Table 4). The mean score for student engagement is 4.15. These findings underline the importance of gamifying the educational process as a means of increasing students' interest and participation. This section expands on the aforementioned findings by situating them in the context of earlier academic research on student engagement and gamified learning.

Participation on the part of students is becoming recognized as a key factor in promoting effective learning in today's classrooms (Fredricks et al., 2004). Fredricks et al. (2004) found that students with higher levels of motivation, intrinsic interest, and academic success were those who actively participated in classroom activities. Sailer et al. (2017) emphasize the use of gamified learning as a potentially beneficial educational method for boosting and sustaining students' interest in schoolwork.

Previous research has shown that gamified learning increases student involvement (Anderson, 2010; Hamari et al., 2014). This study found a mean score of 4.15 out of 5 for student engagement. Gamified elements, such as points, awards, and challenges, are included in lessons to capture and keep students' interest (Deterding et al., 2011). To increase students' interest in and enthusiasm for studying, these factors should be emphasized, as advocated by Hamari et al. (2014).

Table 4 shows that teachers' perspectives on gamification have a considerable impact on their students' levels of involvement in class, demonstrating the powerful effect that teachers' perspectives have on shaping students' learning experiences. Previous research (Teo, 2011) confirms the importance of teachers' attitudes on students' motivation and involvement in the classroom, therefore our finding is consistent with that body of work.

According to Teo (2011), educators who have a positive disposition towards gamification are more likely to design engaging learning experiences that effectively include gamified elements. The research of Deci et al. (1999) suggests that students would be more motivated to participate actively in their learning if they were presented with more opportunities for challenge, competition, and achievement.

Results from a multivariate regression analysis (Table 7) demonstrate that students' perspectives on gamification are highly predictive (beta = 0.57) of their participation. This data suggests that the level of student involvement may be increased merely by teachers' having a more optimistic outlook on the use of gamified learning. Teachers' perspectives and pedagogical methods have been shown to have a significant impact on students' engagement, according to recent studies (Fredricks et al., 2004; Wang & Hannafin, 2005).

Important implications for educational practitioners and policymakers outside Saudi Arabia are also warranted by these findings. It has been proposed that gamified learning might be a useful strategy for increasing students' interest in and enthusiasm for school (Ministry of Education, Saudi Arabia, 2020). It is believed that this method is consistent with the goals of educational reform initiatives.

Furthermore, since teacher attitudes have been shown to have a major impact on student engagement, it is crucial to implement professional development initiatives that not only acquaint teachers with gamified learning strategies but also foster positive attitudes towards their implementation (Ajzen, 2020). According to Fredricks et al. (2004), these programmes may help teachers provide their pupils with more interesting and exciting ways to learn, which in turn leads to better results for those kids.

Deterding et al. (2011) argue that these findings are in line with constructivist learning theories and their place within the larger context of educational technology and pedagogical innovation. Active student participation and interest in the material being learned are cornerstones of gamified instruction, which in turn is supported by constructivist ideas (Steinkuehler & Duncan, 2008). As gamified learning provides students with opportunities for practical learning and active problem-solving, it aligns with constructivist principles (Anderson, 2010).

6. Study Limitations

It is conceivable that no teachers from other regions of Saudi Arabia or with diverse backgrounds were included in the study, therefore limiting the results to the tested group. Complex opinions and attitudes that necessitate a qualitative examination may be tougher to comprehend completely owing to the study's reliance on quantitative research methods. The results may not be generalizable to other cultures or educational settings because they were obtained from a specific demographic. The reliability of the results may be compromised owing to

inherent biases or disparities in the teaching staff's responses as the study relies on their self-reported opinions and experiences.

7. Conclusion

This research endeavour offers a significant contribution by shedding light on the perspectives held by educators in Saudi Arabia regarding the utilization of gamified learning approaches. Moreover, it delves into the incorporation of gamified elements within their instructional settings and examines the subsequent effects on student engagement. The results of the study unveil a prevailing inclination among educators towards the implementation of gamified learning, accompanied by robust indications of its perceived efficacy, user-friendliness, and favourable attitudes towards its integration. The aforementioned attitudes assume a crucial function in propelling the assimilation of gamified learning within the educational milieu.

Furthermore, this study sheds light on the intricate and multifaceted correlation between the level of teacher experience and the successful integration of gamified learning techniques. The successful integration of gamified learning in the classroom is not solely dependent on a teacher's years of experience and exposure to such methods. Rather, it is the harmonious interplay between their experience and positive attitudes that exerts the greatest influence. This highlights the significance of taking both elements in educational programmes designed to cultivate proficient integration within teacher training and development initiatives into account.

Moreover, the research highlights the inherent capacity of gamified learning to greatly augment student involvement, thereby aligning harmoniously with the objectives of educational reform endeavours. The existence of a positive correlation between teacher attitudes, specifically their attitude towards gamification, and student engagement underscores the crucial significance of teachers in fostering captivating and stimulating educational encounters. The present study highlights the profound capacity of gamified learning to bring about significant changes and emphasizes the crucial role of cultivating favourable teacher attitudes in order to exploit its advantages fully.

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