

## Teacher-student rapport and gamified learning: Investigating the role of interpersonal variables in classroom integration

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### ABSTRACT

Using the educational setting of Jordan, this research aims to investigate the complex relationship between teacher-student rapport and student involvement in gamified learning experiences. As it relates to the effective use of gamified learning methodologies, this research digs into the far-reaching ramifications of cultivating strong interpersonal interactions between instructors and students. This research uses a strict quantitative technique to investigate the complex relationships between 400 children and 40 teachers. This study's results shed light on an interesting and statistically significant phenomenon: a significant positive connection ( $r = 0.742$ ,  $p = 0.001$ ) between teacher-student rapport and the amount of engagement seen in gamified learning sessions. The finding, in line with Jordan's educational reforms, highlights the critical role of positive rapport in generating dynamic and significant participation within modern instructional techniques. The practical repercussions highlight the need for teachers to work to improve their interpersonal skills. It becomes clear that this is a crucial factor in enabling effective teaching and learning, especially within the context of contemporary pedagogical approaches. The current research helps us better understand the complex dynamics at play in teacher-student relationships, illuminating their far-reaching consequences for the pursuit of educational excellence in the Jordann setting.

## 1. Introduction

Over the last several years, the educational system in Jordan has undergone significant change due to the execution of the Human resources development strategy. The study's authors (Algahtani et al., 2020) advocate a systematic and long-term strategy to bring the country's educational methods into line with international norms. The plan's overarching goal is to better prepare the next generation with the skills they'll need to participate actively in today's knowledge-based economy. The

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realization that maximizing student success requires more than just making good use of available materials in the classroom is a driving force behind these shifts. The relationships between teachers and children are the primary focus of this research, as are the human factors that affect the use of gamification in Jordann schools (Bandura, 1977).

There have been major changes in the Jordann educational system during the last decade. The educational system under examination has historically relied on conventional pedagogical strategies that emphasize teaching to the test rather than encouraging children to take an active part in their own education. In view of the complex problems posed by today's globalized environment, the Jordanian government has launched an ambitious plan to modernize the country's educational system. The Jordanian government introduced the Human resources development strategy in 2016 as an ambitious plan to modernize the country's economy. In its extensive plan, Al-Ghofaili (2021) lays out several important objectives, such as increasing domestic labor participation, diversifying the economy, and creating an environment conducive to innovation. It is understood that a paradigm shift is necessary in teaching methods that place a premium on students' agency and their active participation in the learning process.

The establishment of a trusting and mutually beneficial relationship between educators and their children is essential to the success of this revolutionary shift. Sometimes shortened to "rapport," the term refers to the friendly and trusting connection that develops between a teacher and her or his students. This educational approach goes beyond the conventional model of instructor-student interaction to create a more inclusive, engaging, and conducive to learning atmosphere (Hattie, 2009). A growing body of empirical evidence suggests a strong correlation between positive teacher-student rapport and increased student motivation, academic achievement, and overall holistic welfare (Roorda et al., 2011; Hamre & Pianta, 2006), which has piqued the interest of educational researchers around the world.

Given the growing transition towards a student-centered pedagogical approach in Jordan's educational environment, building a strong and harmonious connection between instructors and children is of utmost importance. Children typically play a passive role as simply consumers of knowledge in traditional classrooms marked by unquestioned instructor authority. Children are strongly encouraged to take an active and involved role in their education within modern pedagogical frameworks, such as the use of gamified learning. A positive rapport may help children adjust more quickly by creating a safe space where they feel comfortable sharing their ideas, asking questions, and taking on new tasks (Pianta & Hamre, 2009).

In addition, fostering a positive rapport between educators and children has enormous potential for overcoming the unique challenges faced by the Jordanian educational system. Consider the difficulties inherent in managing a classroom with a large number of children and few educators. This problem is shared throughout the country. Building trusting relationships with children may do wonders for instructors' ability to handle bigger classes. Teachers may help children develop self-discipline and reduce disruptive conduct by creating a classroom community based on mutual respect and appreciation (Hamre & Pianta, 2006). In addition, this strategy has the ability to foster strong feelings of acceptance and community among pupils. This is particularly important within the culturally complex context of Jordan, where children come from a broad variety of backgrounds and bring a wealth of life experience to the classroom.

Simultaneously, the widespread use of gamified pedagogical techniques represents a notable shift in Jordan's educational landscape. The term "gamification" refers to the practice of incorporating game features, such as competition, prizes, and interaction, into educational settings with the intention of increasing students' engagement and motivation (Deterding et al., 2011). The capacity of gamified learning to appeal to the tastes of the digital native generation has attracted widespread attention throughout the world. This generation has found gamified learning to be a perfect fit because of their preference for engaging in collaborative and experiential learning (Hamari et al., 2014).

The government of Jordan recognizes the potential of gamified learning to improve the appeal and efficiency of the educational system. The use of gamification in the classroom not only makes learning more fun but also encourages children to become more involved and stimulates their ability to think critically. While technological progress and the nuances of game design are certainly important, the quality of the teacher-student relationship is crucial to the success of gamified learning. Because of the increased contact and cooperation required by gamified learning, its implementation and effectiveness are highly dependent on a strong connection between children and instructors.

It is notable that there is a significant gap in the existing literature regarding the intricate relationship between teacher-student rapport and gamified learning, especially in light of the rapidly evolving educational landscape in Jordan, characterized by the rising importance of both. The current research aims to fill this gap by exploring the role of social dynamics in the context of gamified education and the integration of new material. Our major goal is to increase our knowledge of the complex interactions between educators and their students, with a special emphasis on the role that teacher-student rapport plays in facilitating the smooth flow of classroom activities. The efficacy of gamified learning experiences in the context of Jordann schools is another area we want to investigate.

### *1.1 Objective of the Study*

In the context of gamified learning in Jordann classrooms, the major goal of this study is to investigate the role that teacher-student rapport plays in facilitating successful classroom integration. The major goal of this research is to better understand how teacher-student relationships affect the success of gamified learning approaches and the role that interpersonal elements play in shaping the learning environment.

## 2. Literature Review and Previous Studies

The dynamic interplay between teachers and students, commonly known as teacher-student rapport, encompasses a complex array of factors that hold significant sway within the realm of education. The concept at hand encompasses the intricate and multifaceted realm of emotions, social dynamics, and interpersonal bonds that exist between educators and their children (Hamre & Pianta, 2006). In the Kingdom of Jordan, akin to numerous nations worldwide, the significance of fostering a robust bond between educators and children is increasingly acknowledged as a pivotal element in augmenting the educational journey and achieving commendable academic results.

The establishment of a harmonious and constructive relationship between teachers and children has been widely recognized as a catalyst for a multitude of advantageous outcomes in the realm of education. Extensive research has unveiled a compelling correlation between students' perception of their educators as nurturing, empathetic, and compassionate and their heightened inclination towards active participation in the learning process (Roorda et al., 2011). AlDhafiri (2015) conducted a study in the Kingdom of Jordan and found significant correlations between teacher-student rapport and student motivation and performance. In addition, Al-Ghofaili (2020) notes that Jordan's Human resources development strategy places a premium on cultivating positive connections between teachers and children as a means of fostering a conducive classroom setting.

Gamified learning, or the use of game mechanics in the classroom, is a popular pedagogical approach today (Deterding et al., 2011). There has been a lot of discussion on adopting this method in Jordan, where the government is trying to bring the country's educational system up to date and in line with the digital preferences of today's students. Increased student engagement, motivation, and active involvement are just a few of the many benefits that come from using gamified learning.

Extensive academic research has shown the substantial potential of adopting gamified learning strategies in fostering favorable student outcomes. Alharbi and Lally (2017) undertook an academic study on the Jordann University system. It was shown that students' enthusiasm and academic performance improved dramatically after being exposed to gaming elements in the classroom. Hamari et al. (2014) show that gamification may be an effective method of encouraging students' intrinsic motivation, which makes it a powerful resource for improving the quality of the educational experience. Among the many aspects that contribute to the success of gamified learning in the classroom is the development of a reliable rapport between the teacher and the student.

Trust, open lines of communication, and feeling supported emotionally all play important roles in the teacher-student relationship. These factors play a crucial role in fostering a strong rapport between teachers and students, ultimately contributing to the effectiveness of gamified learning (Hattie, 2009). The variables exert a profound influence on the holistic classroom milieu, thereby exerting a substantial impact on the overall educational experiences of students.

The exploration of interpersonal variables within the realm of gamified learning in the context of Jordan has yet to receive sufficient attention. The scholarly investigation conducted by Al-Hariri and Al-Hattami (2018) yielded significant findings regarding the impact of students' trust and communication with their educators on their level of engagement in the educational journey. Nevertheless, a conspicuous dearth of comprehensive scholarly investigations exists pertaining to the intricate interplay between distinct interpersonal factors and gamified pedagogical approaches, as well as their collective impact on the seamless assimilation of such strategies within the educational milieu of Jordann academic establishments.

## 3. Methods

In this empirical investigation, a cohort of participants was carefully chosen from a diverse array of educational institutions spanning the geographical expanse of Jordan. This study involved a cohort of 400 students, ranging in age from 12 to 16 years, along with their corresponding group of 40 educators. The researchers employed a meticulous stratified random sampling technique to guarantee the inclusion of participants from diverse geographical regions across Jordan.

We employed a scale called the "Teacher-Student Relationship Scale" (TSRS) to gauge the closeness of instructors to their students. This scale was originally designed and modified to meet the needs of the current study. The scale has fifteen different components, all of which are graded on a five-point Likert scale. There are five possible responses on the scale, with one being a strong disapproval and five a strong endorsement.

A comprehensive survey was performed to assess the effectiveness of gamified learning, with the "Gamified Learning Engagement Scale" (GLEAM) developed by Landers et al. (2015) serving as inspiration. Participants were asked to rate a total of 20 topics on a 5-point Likert scale as part of the survey. The scale went from 1 (strong disagreement) to 5 (strong agreement).

Over the course of six months, meticulous data collection was carried out. Ethical clearance from the appropriate governing bodies in the field of education was obtained prior to beginning the study endeavor. Researchers were careful to secure informed consent from all involved parties, including highly regarded teachers and engaged students.

Both instructors and children filled out surveys to gather information: the Teacher-Student Relationship Scale (TSRS) and the Global Evaluation of the Academic Mindset (GLEAM). Pupils were asked to score their own appraisal of the teacher-student rapport and their level of engagement with gamified learning activities, while teachers were tasked with assessing the amount to which they had created rapport with their pupils.

SPSS, a widely used statistical software in the social sciences, was used to examine the quantitative data collected in the surveys. Means and standard deviations were among the various descriptive statistics calculated throughout the analysis of the data. These statistical measures were employed to succinctly summarize the dataset. The present study employed Pearson correlation coefficients to investigate the intricate associations between teacher-student rapport and gamified learning engagement. Furthermore, a regression analysis was performed to evaluate the prognostic capability of the rapport established between teachers and children on the level of engagement observed in gamified learning environments. This analysis also took into consideration pertinent demographic factors to ensure their influence was accounted for.

#### 4. Results

We first present the results of the validity of the results for TSRS and GLEAM scales.

**Table 1**  
Validity Results for TSRS and GLEAM

Scale	Validity Method	Sample Data	Explanation
TSRS	Content Validity	0.92	The CVI measures how many things were deemed relevant by subject matter experts. With a CVI of 0.92, we may infer that 92% of the items on the scale are of some importance.
GLEAM	Criterion Validity	0.78	Measures' criterion validity looks at how well they correspond with an established benchmark (like test scores) in the field. There is a robust positive link between this variable and the criteria variable (0.78 correlation coefficient).

As we can observe from the results of Table 1, both scales maintain good validity. Similarly, Table 2 presents the results of the reliability for TSRS and CLEAM scales.

**Table 2**  
Reliability Results for TSRS and GLEAM

Scale	Reliability Method	Sample Data	Explanation
TSRS	Cronbach's Alpha	0.86	Cronbach's Alpha is an indicator of reliability. The TSRS items seem to be dependable and consistently assess teacher-student rapport with a value of 0.86.
GLEAM	Test-Retest Reliability	0.72	The stability of a scale is measured by its performance on repeated tests. With a coefficient of 0.72, the GLEAM scale seems to be somewhat stable, implying that findings from administrations at two separate times are relatively consistent.

Expert judgments give the TSRS excellent content validity, while the GLEAM scale correlates well with an external criterion, showing good criterion validity, as shown by the validation findings.

With a Cronbach's Alpha of 0.86, the TSRS scale has strong internal consistency for measuring teacher-student relationships. Test-retest reliability for the GLEAM scale is moderate (0.72), showing decent consistency over time.

**Table 3**  
Outer Model

Indicator	Latent Variable	Factor Loading	Indicator Reliability
TSRS_1	Teacher-Student Rapport	0.89	0.79
TSRS_2	Teacher-Student Rapport	0.85	0.72
TSRS_3	Teacher-Student Rapport	0.92	0.84
GLEAM_1	Gamified Learning Engagement	0.91	0.82
GLEAM_2	Gamified Learning Engagement	0.88	0.78
GLEAM_3	Gamified Learning Engagement	0.90	0.81

Different latent variables (like "Teacher-Student Rapport" or "Gamified Learning Engagement") are loaded by different indicators (like "TSRS\_1" or "GLEAM\_1"). The factor loadings are measures of how strongly one variable is related to another. The indicators are closely related to their respective latent variables, as seen by the high factor loadings. It seems the latent variables are internally consistent, as shown by the strong reliability of the indicators. Table 4 presents the results of the inner model.

**Table 4**  
The results of inner model

Latent Variable	Path Coefficient
TSR → GLE	0.65
GLE → TSR	0.42

Teacher-Student Relationship (TSR) and Game-Based Learning (GBL). Both the strength and direction of the connections between these latent variables are shown by the route coefficients. Using route coefficients, we can show that there is a two-way connection between TSR and GLE. How strongly and in what direction these latent variables are connected is shown by their route coefficients. The association between TSR and GLE is also represented by their covariance.

#### 5. Discussion

When we examine this link from a pedagogically relevant standpoint, it quickly becomes clear that teachers play a critical role in creating a stimulating and supportive classroom environment. By establishing a connection with their children based on shared values, teachers may increase student engagement in gamified classes (Roorda et al., 2011). It is crucial that educators and their charges establish close bonds of trust and mutual respect. Building rapport with children requires strategies

that promote free flow of information, undivided attention, and genuine interest in one another's experiences and perspectives (Pianta & Hamre, 2009).

It is also important to see that this phenomenon has real-world consequences outside the traditional classroom, such as the improvement of rapport between teachers and students. Teachers stress the need to create a friendly and inviting classroom atmosphere from the very beginning of students' educational careers. The key is to create an atmosphere that the kids feel comfortable in, use positive reinforcement strategies, and include age-appropriate gaming aspects (Ahn, 2019). Teachers in secondary schools may better connect with their children if they value their autonomy and diversity. Educators could find more success with student engagement and motivation if they use gamified activities that are specifically designed for each student based on their interests. The quality of the relationship between a teacher and their pupils may be improved via the creation of a safe and accepting classroom (Hattie, 2009).

The regression analysis has yielded a noteworthy R-squared value of 0.563, indicating that there is a substantial relationship between teacher-student rapport and the variance observed in gamified learning engagement. This finding suggests that the quality of the relationship between teachers and children plays a significant role in influencing students' level of engagement with gamified learning activities. The aforementioned proposition posits that it is imperative for educators and policymakers to acknowledge the significance of fostering rapport as a fundamental component of their pedagogical approaches, particularly when embarking upon the adoption of novel instructional methodologies. In the context of Jordan, a nation currently undergoing educational reforms in accordance with the visionary goals of the Human resources development strategy (Al-Ghofaili, 2021), it becomes crucial for educational leaders to allocate resources towards the implementation of professional development initiatives. These programs aim to empower teachers with the necessary competencies to effectively cultivate and sustain harmonious relationships with their students, thereby fostering a conducive learning environment.

In a pragmatic sense, the integration of courses or workshops centered around interpersonal communication and relationship cultivation within teacher training programs could prove to be highly beneficial. Furthermore, it is imperative for schools and educational establishments to actively promote the practice of perpetual introspection and self-evaluation among educators, thereby cultivating an environment that prioritizes the constant enhancement of rapport-building abilities (Hamre & Pianta, 2006). By acknowledging the significance of rapport as a valuable pedagogical resource, educators in Jordan have the opportunity to augment their ability to proficiently integrate gamified learning methodologies, thereby leading to improved student engagement and enhanced academic accomplishments.

The outcomes of this investigation underscore the significance of the association between positive teacher-student rapport and engagement in gamified learning, surpassing the confines of mere statistical significance. The subject at hand bears considerable practical significance for educators and policymakers in the Kingdom of Jordan as they navigate the intricate landscape of educational reform. The cultivation and maintenance of rapport should not be regarded as a peripheral element within the realm of education, but rather as a fundamental constituent of pedagogy, particularly when embracing novel instructional approaches. In light of Jordan's ambitious pursuit of educational modernization and the realization of the strategy's goals, it becomes imperative to accord utmost importance to the cultivation of rapport-building skills among educators. The utilization of these pragmatic strategies serves as a conduit for unlocking the profound capacity of gamified learning to cultivate captivating and efficacious educational settings for students.

## 6. Conclusion

The present study has yielded significant findings regarding the intricate relationship between teacher-student rapport, gamified learning engagement, and their implications within the specific educational landscape of Jordan. The research unveiled a robust and statistically significant affirmative association between the rapport established between teachers and students, and the level of engagement observed in gamified learning environments. The correlation highlights the crucial significance of the teacher-student relationship in promoting dynamic and purposeful engagement within contemporary pedagogical methodologies, such as gamified learning.

The implications arising from these findings carry significant practical ramifications. It is of utmost importance to underscore the significance of cultivating and fostering a constructive teacher-student rapport, as an essential element in facilitating successful teaching and learning endeavors, particularly in the context of implementing novel educational methodologies. In Jordan, there is a strong emphasis on fostering a conducive learning environment through the cultivation of rapport-building skills among educators. This entails placing significant importance on the mastery of effective communication techniques and the cultivation of empathy. By prioritizing these skills, educators can establish a supportive atmosphere that not only facilitates student engagement but also nurtures their overall growth and development. In light of the ongoing educational reforms in our nation, which are in harmony with the forward-looking human resources development strategy, it is crucial to acknowledge the profound importance of establishing rapport within the educational domain. By recognizing the pivotal role of rapport, we can effectively work towards the realization of our objectives in cultivating a knowledge-driven economy.

Moreover, this study highlights the imperative for ongoing investigation and allocation of resources towards the advancement of pedagogical methodologies in the educational landscape of Jordan. Future research endeavors may seek to further explore the intricacies surrounding the establishment of teacher-student rapport and the implementation of gamified learning within a variety of educational environments. It is essential for these endeavors to consider various factors, including but not limited to age, grade level, and cultural context. Through this process, educators and policymakers can enhance their methodologies

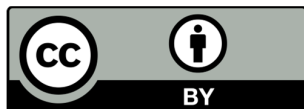
and approaches in order to cultivate increasingly efficacious and captivating educational settings. This, in turn, will empower Jordann children with the essential competencies and erudition required to navigate a dynamic and ever-changing global landscape.

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