

Influence of Gamification Media on the Learning Activities of Sociology in the High School of Surakarta

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Abstract: Education influences students to be innovative, creative, and productive individuals. The study aims to find out the impact of gamification media use on educational activities in schools in Surakarta. Quantitative Research Methods with Survey Approaches to Higher Secondary Schools in Surakarta. Measurements in using SPSS 25 with Cronbach's alpha variable learning media gamification and pupil activity, normality tests, heterocadastisity tests, deviations, correlation values, and determination coefficients (R square) The collection shows that H₀ is rejected and H_a is accepted because the regression factor has a value of significance < 0.05, so some suggest that there is a significant influence between the use of gamified media and activation. The study results show that the correlations or relations values table (R) is 0.335 and a determination factor (R square) of 0.112 means that the influence of the gamifying media (X) on the activity (Y) is 11.2%, partially suggesting that there are significant influences between the usage of gamification media and student activity.

Keywords: Gamification, Learning Activities, Sociology, Specific

A. Introduction

The Business 4.0 period not only affects the financial area, but also schooling. Mechanical advancements should likewise be applied in the realm of schooling, since training should prepare graduates to have the capabilities required later in their careers (Ritonga, 2023; Siska et al., 2023). Instruction ought to prepare understudies to be imaginative, innovative, and useful people. The future contest will be more diligent for our understudies; in the event that they don't plan themselves at the earliest opportunity, they will not have the option to contend in the realm of work later. The capacity to utilize innovation turns into something outright that should be dominated by understudies. The utilization of innovation in learning is a positive propensity for understudies (Meridional, 2018). The rising rate of mechanical advancement is making it more straightforward for understudies to get to data. In this unique situation, training and learning norms look to adjust the profile of new understudies arranged towards the computerized climate by presenting better approaches for discovering that address a fascinating and creative option in contrast to understudy

ability advancement. Plus, understudies are currently exceptionally partial to messing around with their devices. There are even a few understudies who exploit their spare energy by messing around, and what is hazardous is the game habit that causes them to disregard their essential undertakings as an understudy.

The arrangement of social cooperation among understudies with regards to the digitalization of schooling and the utilization of virtual gamification innovation in the educational cycle (Khrapov & Baeva, 2022). It is entirely expected for learning exercises in the homeroom to be viewed as dreary to them on account of the utilization of less pointless and repetitive learning media, like PPT media, learning videos, pictures, articles, news, etc (Jafar, 2021; Kurniawan et al., 2024; Lestari et al., 2023; Puspita et al., 2022). Kids presently need a difficult learning movement, like when they mess around (Rahayu, 2023; Triayomi & Pamugkas, 2023). There are components of game, rivalry, or contest, and awards there for the people who become champs. Contests can be held separately or at gatherings. (tim). Educators are tested to do discovery that draws in understudies and makes them dynamic in learning. Understudy reactions reflect one fundamental topic: delight, and two more modest subjects: companions and learning. Then agaaaaaa that takes advantage of the elements found in a game. The elements that are commonly found in the game are points, leaderboards, badges, and so on. (Dicheva et al., 2015) dalam (Jeskris Lawalata et al., 2020).(Wastari & Sagoro, 2018). Kapp et al., (2014, p. 54) feature the utilization of "game-based mechanics, feel, and game-remembering to draw in individuals, rouse activity, advance learning, and tackle issues", (Krath et al., 2021). Gamification will be able to attract or give incentives to students to continue learning, motivate action, and solve problems.

Gamification has been utilized by educators to upgrade the inspiration of understudies in learning exercises, it has been displayed to further develop understudy learning inspiration. Research from (Jeskris Lawalata et al., 2020) Shows that gamification-based learning can foster understudy mathematical methods and understudy learning motivation. Also, gamified learning is by 78% of understudies. Game media learning can construct data in a circumstance, reasonable to present setting focused and more significant instructive encounters. These outcomes can be instances of making game-based creations that can show the advantages of games and lessen immersion in instructive experience. Experience that creates becomes coordinated, purposeful, and understudies purposely and successfully partake in it (Gunanto, 2021). Gamification is perceived as the execution of a game arrangement of rivalry, fulfilling, estimating player/client conduct - into non-game spaces, like work, efficiency, and wellness. Rehearses like this are exceptionally hazardous on the grounds that they mirror a 'game' with an end goal to neoliberal legitimization and administrative enhancement in working life and business (Woodcock & Johnson, 2018).

Legitimate educator preparing in the utilization of data and correspondence innovation (ICT) pedantic can positive instructive results when utilized correctly (Sugiarto & Suhono, 2023; Yusuf, 2023). Research results show that the utilization of gamification learning media can further develop understudy learning inspiration and learning happens deliberately and understudies take part effectively. The analysts utilized writing studies and subjective clear exploration as well as issue focus on learning inspirations. This doesn't offer a respectable chance for development to students so there is a need to additionally foster the learning structure. This investigation was coordinated to perceive. The use of cells makes it more direct for students to learn, in understanding sociology learning material in auxiliary school (Soleh et al., 2024)(Candel, 2022). Can work in learning systems for schooling, accomplishment, support and inspiration during understudy educator preparing in subjects of Music Training and its didactics and in the overall setting of advanced education(Candel, 2022). With existing examination, the scientists will lead a quantitative review with the equation of the inquiry "Does the utilization of gamification learning media impact understudy action in human science learning?"

The point of this exploration is to decide the impact of involving gamification learning media on understudies' liveliness in learning Human science. In the mean time, the exploration speculation is "There is a critical impact between the utilization of gamification learning media and understudies' liveliness in learning Social science". Through this exploration, it is trusted that it can give benefits in regards to systems to increment understudy action in school for educators specifically and advance training overall.

Aleksic-Maslac et al., (2018) that gamification is one of the techniques that spurs understudies to take part effectively in class, learn through amusement by playing with their companions, stress positive contests, and make learning pleasant. strategies utilized by the Zagreb School of Financial Matters and the executives (ZSEM), examination through understudy contribution, and inspiration in different courses. Research shows that understudies are extremely glad to present gamification as a feature of instructive interaction.

Sanchez et al., (2020) plan to investigate the advantages of gamification on understudy learning through testing impacts. In the exploratory semi-plan, understudies (N = 473) set themselves up for three tests utilizing a customary test (i.e., one inquiry, four response choices) or a web-based test that is mumified. (Yaitu, pilihan taruhan, bilah kemajuan, pesan yang mendorong). Understudies who finished more tests performed better on the following test. Besides, understudies who completed a gamified test scored much better in the test.

Gamification research in instructive conditions produces fluctuating results on understudy learning results. This exploration gives discoveries from meta-examination that coordinates exact and quantitative exploration of gamification in a

formal instructive climate to understudy learning results. Recognizes which plan components of gamification (e.g., identifications) are utilized and decides under what conditions (i.e., designing training) the gamification succeeds. The last informational collection included 30 autonomous investigations and related impact estimations that contrasted gamification and non-gamification conditions, and the quantity of members was $N = 3083$. The complete impact size utilizing the arbitrary impact model is $g = 0.464$ (0.244 to 0.684) (Huang et al., 2020).

To figure out the impact of gamification on understudy inspiration in learning English. This review included 13 11th grade understudies, comprising 10 female understudies and 3 male understudies. Understudies experience capability, independence, and networking inside GBSR, which brings about a more grounded characteristic of learning inspiration and a more charming homeroom environment for understudies. These outcomes give educators an elective way to teach English at the center level (Anwari, 2018). The impact of instructive games, research information was gathered utilizing the IPS Understudy Demeanor Scale (Cronbach Alpha = 0.61), the Agreeable Learning Scala ($\alpha = 0.80$), and the IPS Secondary School Scholastic Accomplishment Scales ($kr-20 = 0.78$). Showing investigation, agreeable learning, mean, standard deviation, and Anova proceeded as perspectives, messing around created: Sociology instruction supported by gamification offered more to the mentality of understudies towards IPS subjects than customary strategies (Ozturk & Korkmaz, 2019).

B. Methods

The methodology utilized is an organized quantitative way to deal with peculiarities as well as their relationship with impacts in the utilization of gamification. The procedure centers around these abuse survey methods. As per Singaribun, strategy survey is research that means assessments from a general population and usage of evaluations of public opinion as an information gathering instrument (Sugiyono, 2022). This assessment uses one independent and one subordinate variable. The independent variable is gamification learning media, while the dependent variable is student activity.

This examination utilizes one autonomous and subordinate variable each. The autonomous variable is gamification learning media while the reliant variable is understudy action. In light of the above factors, in the explanations that the specialists ordered in the lift, there are 10 proclamations for the gamification learning media variable and 25 articulations for the understudy movement variable. Angket is coordinated as Google structures to be disseminated to the examination test. Information assortment with a lift or survey utilizing the media Google structures. The utilization of Google Structures enjoys many benefits, among them that it doesn't need an expense for printing. For example, while utilizing paper, specialists pass on

sending connections to research structures without heading over to the homerooms to share the pickup and get the information.

Then, the populace is all understudies in class X Stage E, XI Stage F 6-11 and The foundation for taking this populace is that Humanism is a subject shown in these classes. The quantity of understudies taking Human science subjects was 777, with subtleties of X Stage E adding up to 391, XI Stage F 6-11 adding up to 209, and Class XII IPS 1-5 adding up to 177. The populace is the whole exploration object. The example is essential for the number and attributes of the populace (Sugiyono, 2020). The inspecting procedure is proportionate delineated irregular examining, so that each class with various stages can be addressed. Proportionate defined irregular examining is relative arbitrary inspecting. By working out the quantity of tests utilizing the Yount Table (1999), that is, on the off chance that the populace is over 101, the example can be taken from 10% of the populace, to be specific 78 understudies as tests with subtleties of class X Stage E adding up to 39 understudies and class XI Stage F 6-11 adding up to 21 understudies, and Class XII IPS 1-5 with 18 understudies. The example estimation for each stage depends on the quantity of understudies. For class For class XI Stage F, the quantity of understudies in class moreover, in ascertaining the example for class.

The latter is saving time in light of the fact that the exhibition should be possible on the web, and the outcomes can likewise be quickly seen by scientists in a somewhat brief time frame, or at least, after the respondents have wrapped the takeout. Information examination procedures utilize inferential insights from direct relapse investigations. Before the relapse test, a great deal of pre-contingent testing must be finished. Before the lift is utilized, the instrument will be tried on no fewer than 30 individuals in the population. The information acquired was then tried for legitimacy and attainability. Invalid instruments won't be utilized for research information assortment. An instrument is supposed to be substantial when it can uncover data about the elements being referred to. Strong quality testing shows the fixation level of the instrument is sufficiently dependable to be utilized as a device for tracking down significant data in a review. The reliance test utilizing Cronbach's alpha.

The test in this study uses SPSS 25 using the reliability test of the variable learning media gamification and student activity: normality test, heteroscedasticity test, linearity test, theory testing, simple regression test, connection test. The analysts utilized this methodology to see the impact of the X element (gamification learning media) on the Y variable. From that point forward, there was a gigantic effect of the gamification of learning media on understudy learning interests.

C. Results and Discussion

The area of the examination is at the sixth Surakarta State Secondary School in September–December 2023. The exploration was completed to determine the impact

of gamification learning media on action through polls and questions. Survey/poll impact Gamification Learning Media with Action was given to 78 respondents, which were separated into 39 understudies for Class X Stage E, 21 understudies in Class XI Stage F 6-11, and 18 understudies of Class XII IPS 1-5 Secondary School 6 Surakarta. Before the lift is utilized, then, at that point, the instrument is tried. The primary test is a lift initially approved by his master. Then, at that point, in the wake of acquiring the outcomes with one or the other capability with little amendment or improvement, From that point forward, they continued with a rise test on respondents (field approval) in the school with a sum of 30 examples (Orcid et al., 2019).

The tried lifts comprise 11 lift instruments of gamification learning media impact and 15 dynamic lifting instruments (Smiderle et al., 2020). The test racket was tried on 30 examples, specifically understudies of State Secondary School 6 Surakarta classes X Stage E, XI Stage F, and XII IPS 1-5. To determine the legitimacy of each angle component. Of the 11 gamification learning media factors tried for legitimacy, a total of 10 proclamations or instruments were pronounced legitimate (having an importance esteem < 0.05), so 10 substantial instruments were utilized for research or gathering information on gamified learning medium factors (Saleem et al., 2022). Then, a legitimacy test will be performed on a bound variable, to be specific. There are 15 proclamations or instruments tried on 30 examples, all of which are understudies of State Secondary School 6 Surakarta Classes X Stage E, XI Stage F, and XII IPS 1-5. With respect to the aftereffects of the instrument trial of 15 dynamic factors tried, legitimacy shows all legitimacy (importance esteem > 0.05), so 15 instruments are utilized completely for research and gathering information on understudy action factors. After the legitimacy test is done, an unwavering quality test ought to be performed to determine the consistency of the respondent's responses.

Table 1. Test Reliability Statistics

Cronbach's Alpha	N of Items
0,781	10

The above information showed Cronbach's Alpha variable learning media gamification was 0.781, so it was reasoned that the learning media variable Gamification is dependable on the grounds that more than 0.6.

Table 2. Understudy Movement Variable Dependability Test

Cronbach's Alpha	N of Items
0,920	15

The variable dependability test results showed Cronbach's Alpha is 0.920. So it very well may be presumed that the understudy's dependable action variable is more than 0.6. When the instrument is substantial and dependable, continue with the information assortment stage through the lift. The information got was then changed over from ordinal information to span information, then, at that point, continued with

ordinariness, heterocadastisity and linearity tests. Ordinariness test utilizing Kolmogorof Smirnov SPSS 25, hence yielding the accompanying.

Table 3. Normality Test

		Unstandardized Residual
N		78
Normal Parameters	Mean	0,000000
	Std. Deviation	8,49210576
Most Extreme Differences	Absolute	0,094
	Positive	0,061
	Negative	0,094
Test Statistic		0,094
Asymp. Sig. (2-tailed)		0,087c

The consequences of the Kolmogorov-Smirnov ordinariness test showed the worth of $0.087 > 0.05$ and afterward it was presumed that the data was generally right. After the following ordinariness test with the heterocedastasis test. In the event that the worth of significance is more prominent than 5% or 0.05, there is no heterocadasthesis as well as the other way around.

Table 4. Heteroscadastisity test

Model	B	Std Error	Beta	t	Sig
Constant	4.549	5,637		0,807	0,034
Gamification Media	0,054	0,166	0,037	0,327	0,003

The consequences of the Heteroscadastisity Test are as per the following: From the aftereffects of the Glejser heterocadastisity test, the importance an incentive for item separation (X) is 0.745. So it tends to be inferred that the detachment of things (X) doesn't happen heterocadasthesis. Furthermore, the linearity test has been finished. It is expressed that there is a direct _ basic relationship in the event that the deviation worth of Sig Linearity is more noteworthy than the worth of Alpha ($\alpha = 0.05$ or 5%) as well as the other way around. Linearity test results between gamification media (X) and initiation (Y) are as per the following:

Figure 5. Linearity test

			Sum of Squares	df	Mean Square	F	Sig
Gamification Media Activeness	Between Groups	Combined	6235,512	75	83,140	8,705	0,108
		Linearity	701,693	1	701,693	73,467	0,013
	Deviation	5533,819	74	74,781	7,830	0,120	
	Within Groups		19,102	2	9,551		
	Total		6254,614	77			

In light of the consequences of the realized linearity test Deviation from Linearity 0.120 > 0.05 , it is presumed that there is a straight connection between gamification media

and enactment. After every one of the essentials are met, continue to halfway speculation testing (t test), with a not entirely settled $\alpha = 5\%$ (0,05). The legitimacy of the speculation is as per the following:

H0 is dismissed and Ha is acknowledged whether the importance esteem is $< 0,05$, H0 acknowledges and Ha rejects assuming the huge worth is $> 0,05$. With respect to the speculation of the issue recipe above, it is: H1: There is no impact between gamification media utilization and enactment, Ha: There is a positive impact among gamification media use and dynamic. To see whether there is an impact between gamification media use and actuation should be visible in the table below:

Table 6. Theory Testing

Model	B	Std Error	Beta	t	Sig
Constant	18,571	8,617		2,155	0,034
Gamification Media	0,785	0,253	0,335	3,099	0,003

Dependent Variable: Activation

In view of the above table, we realize the importance worth of $0,003 < 0,05$, and in section t we acquire the worth of $t \text{ count} = 3,099 > 1,99167 = t \text{ table}$. It tends to be inferred that H0 dismissed and Ha acknowledged implies there is a huge impact between the utilization of gamification media (X) on initiation (Y). Notwithstanding the speculation test above, you can likewise utilize a relapse test, like the accompanying:

Table 7. Simple Regression Test

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	701,693	1	701,693	9,604	0,003 ^b
Residual	5552,921	76	73,065		
Total	6254,614	77			

a. Dependent Variable: Activation

b. Predictors: (constant) Gamification Media

In light of the known result worth of F count = 9,604, the importance esteem is $0,003 < 0,05$, significance there is an impact of the gamification media variable (X) on understudy action (Y). The extent of the impact on understudy exercises (Y) is as per the following:

Table 8. Connection test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,335	0,112	0,101	8,548

a. Predictors: (constant) Gamification Media

b. Dependent Variable: Activation

In light of the table of affiliations or connections (R), it is 0.335. Gotten an assurance coefficient (R square) of 0.112, which implies an impact of the gamification medium (X) on the movement (Y) of 11.2%. Seeing from the live backslide test results the significance of the worth of $0,003 < 0,05$, then there is a basic impact between gamified

media to know how energy. The outcome is an assurance coefficient (R square) of 0.112, which implies an impact of the gamification media (X) on the movement (Y) of 11.2%, and that implies an adjustment of the understudy's energy element can be portrayed by a gamified media variable, while the rest is 88.8%. Can be envisioned as affected by different components that are excluded from this model. If the quantity of associations or connections (R) is critical positive and is 0.335, then obviously the relationship of the variable is positive. The meaning of a positive worth is that in the event that there is an extension of a variable, it will increment different elements (Normae, 2018).

There is a colossal effect between the utilization of gamification media with crucial soul and different other explorations; specifically, the utilization of gamification in instructive experiences can give autonomous motivation to educating individuals. Moreover, responsibility can likewise be perceived as the preparation to embrace exercises that possibly include the profound social and mental commitments of the showing individuals in learning (Rembulan et al., 2018) and (Shaliha & Fakhzikril, 2022). As indicated by (Aribowo, 2014), it is referenced that gamification can be taken advantage of to upgrade comprehensive learning with understudies. Expanded understudy collaboration in the homeroom Tests that execute gamification learning models happen basically contrasted with expanded understudy support in charge classes like tests that carry out customary learning models. Thusly, a huge gamified learning model can be strong in further developing understudy base school support. (Rahmatullah et al., 2022). Android-based learning media "Drama Juragan" to add learning motivation and show soul both likewise make it more straightforward for training individuals to figure out the material plan of exercises (Widiyanti & Anugraheni, 2022) and (Zahira et al., 2023). In developing encounters, use gamification techniques as a choice to make an instructive encounter really energizing, pleasant, and strong (Heni, 2016). In light of examination directed by Putri and Asrori (2019) demonstrates the way that the utilization of gamification can imprint the elements of participation between understudies with teachers, or understudies with different understudies. Various understudies appear to be exceptionally eager to follow the advancement of involvement utilizing gamification (Fadilla & Nurfadhilah, 2022).

In contrast (Rachels & Rockinson-szapkiw, 2017) show no massive distinction in understudies' Spanish execution or scholastic self-adequacy between understudies who use Duolingo and understudies who are educated with conventional eye-to-eye instruction. Applicable to (Bilgin, 2020) In spite of the fact that there are no massive contrasts between the preserved gathering and the customary gathering regarding gatherings and courses, the gathering that was named outflanked the customary gathering as far as gathering union score and colleague assessment score (LLS, 2005).

There is a comparability of subjects made by tests, specifically research (Qodr et al., 2021). There is a huge utilization of cells in the period of computerization in

developing encounters, particularly humanistic subjects in secondary school. This entryway is a convenient game-based learning supplier, or Flexible Game-Based Learning (MGBL). Understudy mentality to the learning climate Did you had at least some idea that the utilization of cell phones by the most prevailing understudies is to play with a pace of 32.90%. Subsequently, compact Game-Based Learning (MGBL) as the learning medium becomes. The utilization of cell phones makes it simpler for understudies to concentrate on human sciences as it makes understudies more powerful, creative and imaginative in instructive encounters. The finish of this test is Compact Game Based Learning (MGBL) is. The far and wide utilization of cell phones in our day makes it simpler for understudies to focus on sociologies in secondary school. Gamification peculiarities as a cutting-edge pattern in distance schooling, as well as framing its creative potential in light of a case examination of the presentation of gamification components in the preparation of humanism understudies (Kalashnikova et al., 2022).

The utilization of games that use building components of progress, for example, metropolitan turn of events and asset the board in humanism illustrations, altogether affects understudies' presentation recorded as hard copy papers, particularly the nature of their contentions, if they are utilized in the right setting (Boudadi & Gutiérrez-colón, 2020). The concentrate likewise tracked down an expansion in understudy inspiration, joint effort, and learning joy because of the game plan and its simple openness through advanced cells. Understudies' views of GBL use demonstrate an eagerness to reuse it as a learning device soon (Rulviana et al., 2023). The discoveries give bits of knowledge into this area of study and may give valuable data to teachers, particularly human science educators, who need to utilize games to assist with making understudy learning a lovely involvement with their learning (Salim et al., 2023).

There is a distinction that the utilization of expertly gamified instructional innovation can fundamentally diminish the social gamble of schooling digitization and work fair and square of the safety of the correspondence and training climate (Khrapov & Baeva, 2022). There is a contribution to the balanced impact of gamification in the educational experience, recommending that understudies present a more elevated level of realization when faced with showing techniques utilizing gamified strategies (Pelin & Danyal, 2019). It ought to be noticed that this exploration proposes to the scholarly local area a structure for the examination of development in training as a contribution to endless learning (Meridional, 2018). The oddity of gamification, applied in the long haul, has found a learning structure fit for expanding understudy inspiration towards actual schooling past the early 'curiosity impact'. Understudies partake in an alternate methodology, and some, despite the fact that they are youthful (seven to eight years of age), accept that they have realized which expands the instructive worth of such subjects (Fernandez-rio et al., 2020).

Members thought about gamification as a valuable device. Worldwide SA communicates a positive feeling towards a gamification approach that adds to an

expanded participatory contribution. The curiosity of this examination rose out of a semi-trial exploration to gauge the effect of gamification exercises on understudy association, estimated through their SA suppositions. It is plausible to transform a non-game into a game as a type of obstruction instead of moving the game components out of the game setting into an administrative setting. Since the first term 'gamification' is currently gone (Woodcock & Johnson, 2018). from the use of gamification in training and tracking down identifications, levels, data sources, focuses, and rankboards to be the most pleasant components of the application that spurs people, since it expands cooperation and contribution in the growing experience. Eventually, this exploration proposes a future field of work (Mohammed, 2021). Gamification definitely affects information maintenance. We tried the moderate impacts of sex and age and found no impacts of orientation and progress in years, as well as results that were conflicting with orientation or age (Gir et al., 2022). The reliable expansion in understudy execution that happened because of the constant culmination of the studio showed the advantages of coordinating the norm of gamification into educational practice (Putz et al., 2020).

An assortment of exploration results, both quantitative and qualitative, demonstrate that the utilization of gamification media can further develop understudy movement since there is an expansion in support in learning exercises, or, all in all, the expansion in understudy action should be possible through gamified media.

D. Conclusion

The questionnaire is said to be reliable if Cronbach's alpha is >0.6 . Measurements using SPSS 25 indicate that the Alpha variable learning media gamification is 0.781 and the student activity is 0.920. The result of the Kolmogorov-Smirnov normality test shows a significance value of $0.087 > 0.05$, so the conclusion is that the data are distributed normally. The result deviation from linearity of $0.120 > 0.05$ indicates that there is a linear relationship between gamification media and activation. In column t obtained value $t_{count}=3,099 > 1,99167 = t_{table}$, can be drawn the conclusion that H_0 rejected and H_a received, value $F_{count} = 9,604$, table value of correlation or relationship (R) is 0.335 and obtain the determination coefficient (R Square) of 0.112 means that the influence of the gamification media (X) on the activation (Y) of 11.2%, so that partially shows there is a significant influence between the use of gamified media with activation. So the strategy of using gamification media can be used by teachers as one way to increase student activity in Surakarta State High School 6 that teachers in other schools can use as one of the alternatives if you want to improve student activity.

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References

- Aleksic-Maslac, K., Rasic, M., & Vranesic, P. (2018). Influence of gamification on student motivation in the educational process in courses of different fields. *2018 41st International Convention on Information and Communication Technology, Electronics and Microelectronics, MIPRO 2018 - Proceedings, August*, 783–787. <https://doi.org/10.23919/MIPRO.2018.8400145>
- Anwari, M. (2018). The effect of Gamification on Students. *The Effect of Gamefication on Learning*, 01(April 2021), 160–164.
- Aribowo, E. K. (2014). Gamification: Adaptation of Games in the World of Education. *Pengembangan Profesi Guru Dan Dosen Melalui Penulisan Jurnal Ilmiah Pendidikan*, 121–131. <https://doi.org/10.6084/m9.figshare.6444464>
- Bilgin, C. U. (2020). *Investigating the Effectiveness of Gamification on Group Cohesion , Attitude , and Academic Achievement in Collaborative Learning Environments*. 124–136.
- Boudadi, N. A., & Gutiérrez-colón, M. (2020). *Effect of Gamification on students ' motivation and learning achievement in Second Language Acquisition within higher education : a literature review 2011-2019*. 28(1), 57–69.
- Candel, E. C. (2022). Gamification and mobile learning : innovative experiences to motivate and optimise music content within university contexts. *Music Education Research*, March, 1–16. <https://doi.org/10.1080/14613808.2022.2042500>
- Dicheva, D., Dichev, C., Agre, G., & Angelova, G. (2015). Gamification in education: A systematic mapping study. *Educational Technology and Society*, 18(3), 75–88.
- Fadilla, D. A., & Nurfadhilah, S. (2022). Application of Gamification to Increase Student Learning Motivation in Distance Learning Application of Gamification to Increase Student Learning Motivation in Distance Learning. *E-Journal Univesitas Pendidikan Indonesia*, 19(1), 34–43.
- Fernandez-rio, J., Heras, E. De, González, T., Trillo, V., Palomares, J., Heras, E. De, González, T., Trillo, V., & Fernandez-rio, J. (2020). Gamification and physical education . Viability and preliminary views from students and teachers views from students and teachers. *Physical Education and Sport Pedagogy*, 0(0), 1–16. <https://doi.org/10.1080/17408989.2020.1743253>
- Gir, A., Sanmiguel-rodr, A., & Á, O. R. (2022). *Can Gamification Influence the Academic Performance of Students ?* 1–17.
- Gunanto, S. G. (2021). Game-Based Learning: Media Konstruktif Pembelajaran Mandiri Bagi Siswa. *Rekam*, 17(1), 71–76. <https://doi.org/10.24821/rekam.v17i1.4951>
- Heni, J. (2016). The Use of Gamification in the Learning Process. *Jurnal TICOM*, 5(1), 1–6.
- Huang, R., Ritzhaupt, A. D., Sommer, M., Zhu, J., & Stephen, A. (2020). The impact of gamification in educational settings on student learning outcomes : a meta -

- analysis. *Educational Technology Research and Development*, 68(4), 1875–1901. <https://doi.org/10.1007/s11423-020-09807-z>
- Jafar, J. (2021). The Influence of Using Internet Media on Learning Achievement in Islamic Religious Education in Class XI High School Students. *Jurnal Al-Qiyam*, 2(1), 188–193. <https://doi.org/10.33648/Alqiyam.V2I1.211>
- Jeskris Lawalata, D., Isabella Palma, D., & Sri Pratini, H. (2020). Gamification-Based Cooperative Learning Model to Improve Students' Mathematical Strategy Abilities and Learning Motivation. In *Prosandika Unikal (Prosiding Seminar Nasional Pendidikan Matematika Universitas Pekalongan)*, 1, 255–266.
- Kalashnikova, L. V, Hrabovets, I. V, & Chernous, L. S. (2022). *Gamification as a trend in organizing professional education of sociologists in the context of distance learning : analysis of practices*. 2022, 115–128.
- Khrapov, S. A., & Baeva, L. V. (2022). *Virtual Gamification and Problems of Students ' Social Interaction Виртуальная геймификация и проблемы социального взаимодействия обучающихся*. 3, 237–248.
- Krath, J., Schürmann, L., & von Korfflesch, H. F. O. (2021). Revealing the theoretical basis of gamification: A systematic review and analysis of theory in research on gamification, serious games and game-based learning. *Computers in Human Behavior*, 125(July), 106963. <https://doi.org/10.1016/j.chb.2021.106963>
- Kurniawan, A. T., Sudirin, S., & Firnanda, S. (2024). The Application of the Jigsaw Type Cooperative Learning Model to Improve Social Science Learning Outcomes. *Bulletin of Pedagogical Research*, 4(1), 34–44. <https://doi.org/10.51278/BPR.V4I1.877>
- Lestari, F., Efendi, D., & Dara, T. (2023). Video Online Learning: An Alternative for Students' Mathematics Problem Solving. *Bulletin of Science Education*, 3(3), 171–178. <https://doi.org/10.51278/BSE.V3I3.807>
- LLS. (2005). *Effect of Gamification on E-Learning To Support Learning Achievement and Learning Motivation 1 Tommy Prasetyo Aji, 2 Togar Alam Napitupulu*. 96(12), 3643–3653.
- Meridional, F. (2018). *Gamification as an innovative method in the processes of learning in higher education institutions Gamification as an innovative method in the processes of learning in higher education institutions Gláuber Guilherme Signori Julio Cesar Ferro de Guimarães . January*. <https://doi.org/10.1504/IJIL.2018.094066>
- Mohammed, Y. B. (2021). *Motivational Effects of Gamification Apps in Education : A Systematic Literature Review*. 12, 122–138.
- No Title. (2018). December.
- Orcid, C. M., Ozgur, O., & Orcid, D. (2019). *Effectiveness of gamification elements in blended*. July, 0–2.
- Öztürk, Ç., & Korkmaz, Ö. (2019). The effect of gamification activities on students' academic achievements in social studies course, attitudes towards the course and cooperative learning skills. *Participatory Educational Research*, 7(1), 1–15. <https://doi.org/10.17275/per.20.1.7.1>
- Pelin, G., & Danyal, D. (2019). *The Effect Of Gamification Methodology On Students ' Achievements and Attitudes Towards Mathematics Oyunlaştırma Yöntemiyle*

- Öğrenmenin Öğrencilerin Matematik Başarılarına ve Derse Yönelik Tutumlarına Etkisi. 8, 258–297. <https://doi.org/10.14686/buefad.424575>
- Puspita, N., Alfaruq, U., & Hasyim, A. (2022). E-Portfolio for Online Assessment: Padlet Implementation. *Jurnal Al-Qiyam*, 3(2), 109–115. <https://doi.org/10.33648/Alqiyam.V3I2.242>
- Putz, L. M., Hofbauer, F., & Treiblmaier, H. (2020). Can gamification help to improve education? Findings from a longitudinal study. *Computers in Human Behavior*, 110(April), 106392. <https://doi.org/10.1016/j.chb.2020.106392>
- Qodr, T. S., Efendi, A., & Musadad, A. A. (2021). Opportunities for Using Smartphones in the Digital Era to Facilitate Students in Learning Sociology in High Schools. 5(2), 263–271.
- Rachels, J. R., & Rockinson-szapkiw, A. J. (2017). The effects of a mobile gamification app on elementary students' Spanish achievement and students' Spanish achievement and self-efficacy. 8221(October). <https://doi.org/10.1080/09588221.2017.1382536>
- Rahayu, S. (2023). Transforming Learning Environments with Information Technology: Trends and Best Practices. *Bulletin of Science Education*, 3(3), 209–219. <https://doi.org/10.51278/BSE.V3I3.821>
- Rahmatullah, S. S., Mulyadiprana, A., & Ganda, N. (2022). The Influence of the Gamification Learning Model on the Participation of Grade VI Elementary School Students. *PADARINGAN (Jurnal Pendidikan Sosiologi Antropologi)*, 4(3), 150. <https://doi.org/10.20527/pn.v4i3.6287>
- Rembulan, A., Wahyu, R., & Putra, Y. (2018). Development of Gamification Teaching Materials (in Bahasa). *Jurnal Matematika Dan Pendidikan Matematika*, 3(2), 84–98.
- Ritonga, A. K. (2023). An Analysis of English for Tourism, Digital Literacy, and Business Success to A Tourist Destination Promotion. *Jurnal Iqra' : Kajian Ilmu Pendidikan*, 8(2), 325–339. <https://doi.org/10.25217/JI.V8I2.3377>
- Rulviana, V., Permatasari, D., Dayu, K., & Marlina, D. (2023). The Effectiveness of Using Microsoft Office Sway Media on Students' Digital Literacy. *Jurnal Iqra' : Kajian Ilmu Pendidikan*, 8(2), 173–181. <https://doi.org/10.25217/JI.V8I2.2955>
- Saleem, A. N., Noori, N. M., & Ozdamli, F. (2022). Gamification Applications in E-learning: A Literature Review. *Technology, Knowledge and Learning*, 27(1), 139–159. <https://doi.org/10.1007/s10758-020-09487-x>
- Salim, A. N., Jawawi, R., Shahrill, M., & Jaidin, J. H. (2023). Integrating Game-Based Learning to Improve Students' Essay Writing in High School Sociology. 2(1), 15–53.
- Sanchez, D. R., Langer, M., & Kaur, R. (2020). Gamification in the classroom: Examining the impact of gamified quizzes on student learning. *Computers and Education*, 144, 103666. <https://doi.org/10.1016/j.compedu.2019.103666>
- Shaliha, M. A., & Fakhzirikil, M. R. (2022). Development of Learning Concepts with Gamification. *Inovasi Kurikulum*, 19(1), 79–86. <https://doi.org/10.17509/jik.v19i1.43608>
- Siska, F., Sapriya, Supriatna, N., Ratmaningsih, N., & Irwan. (2023). The Influence of Entrepreneurship Educational Characteristics on Traders' Income Levels and Business Development. *Jurnal Iqra' : Kajian Ilmu Pendidikan*, 8(1), 117–132. <https://doi.org/10.25217/JI.V8I1.1835>

- Smiderle, R., Rigo, S. J., Marques, L. B., Arthur, J., Miranda, P. De, & Jaques, P. A. (2020). *The impact of gamification on students ' learning , engagement and behavior based on their personality traits.*
- Soleh, A. M., Callista, A. B., & Maulana, M. Y. A. (2024). Project Based Learning: Development of Taxiway Light as a Visual Landing Aid Using Solar Power. *JMKSP (Jurnal Manajemen, Kepemimpinan, Dan Supervisi Pendidikan)*, 9(1), 87–99. <https://doi.org/10.31851/JMKSP.V9I1.13643>
- Sugianto, S., & Suhono, S. (2023). Case Study of Using ChatGPT among Students at PTKI Lampung. *Jurnal Al-Qiyam*, 4(2), 110–119. <https://doi.org/10.33648/ALQIYAM.V4I2.318>
- Sugiyono. (2020). *Quantitative Qualitative Research Methods and R&D.* Alfabeta.
- Sugiyono. (2022). *Quantitative, Qualitative, and R&D Research Methods.* Alfabeta, Bandung.
- Triayomi, R., & Pamugkas, S. P. (2023). Development of Android Based Mathematics Learning Media for Primary School Students. *Bulletin of Science Education*, 3(3), 249–259. <https://doi.org/10.51278/BSE.V3I3.855>
- Wastari, D. A. Y., & Sagoro, E. M. (2018). Implementation of a Gamification-Based Cooperative Learning Model to Improve Learning Outcomes of Adjusted Journal Material for Class X Accounting G Students at SMK Muhammadiyah 1 Yogyakarta Academic Year 2017/2018. *Kajian Pendidikan Akuntansi Indonesia*, 7(1), 1–12.
- Widiyanti, M., & Anugraheni, I. (2022). Development of Android-Based Learning Media “Opera Juragan” on Calculation Operations Material in Elementary Schools. *Edukatif: Jurnal Ilmu Pendidikan*, 4(4), 5480–5485. <https://doi.org/10.31004/edukatif.v4i4.3243>
- Woodcock, J., & Johnson, M. R. (2018). *Gamification : What it is , and how to fight it.* <https://doi.org/10.1177/0038026117728620>
- Yusuf, M. (2023). Development of Arabic Language Teaching Materials With 4D Model for the Second Semester at STAI Al-Furqan Makassar. *Bulletin of Science Education*, 3(3), 152–170. <https://doi.org/10.51278/BSE.V3I3.662>
- Zahira, M. S., Mardiana, A., Mutmainah, R., Apriliya, S., & Saputra, E. R. (2023). *Learning media for counting operations based on pictoblox gamification : development research in class 1 elementarY Pendidikan saat ini telah memasuki era Revolusi Industri 4 . 0 . Pada era revolusi 4 . 0 ini pendidikan lebih menonjolkan pada pemanfaatan .* 6(2), 144–154.