

Video-Mediated Instruction and Pupils' Engagement

Marizel B. Gumahad¹, Crystal Jade S. Mongas²

¹Southern de Oro Philippines College, Cagayan de Oro City, Philippines

²DepEd Division of Bukidnon, Bukidnon, Philippines

ABSTRACT: This study aimed to determine the level of video-mediated instruction and pupils' engagement, and to find the relationship between the level of video-mediated instruction and the level of pupils' engagement. A researcher-made questionnaire was conducted to 142 Grade 5 pupils among the four public elementary schools in the Municipality of Medina District, Division of Misamis oriental. This study employed correlational and causal research designs. to assess how video-mediated instruction affects the pupils' engagement. Mean and Standard Deviation, Pearson Product Moment Correlation Coefficient, and Multiple Linear Regression were utilized to analyze the gathered data. Results showed that the overall extent of video-mediated instruction and the overall pupils' level of engagement are both at High levels. There is a low positive correlation between video-mediated instruction and pupils' engagement. Interactive Power Point Presentation is the best predictor of pupils' engagement. Pupils share and contribute meaningfully to class activities when teachers have well prepared lessons which include the utilization of video-mediated instruction. School heads can support the teaching-learning in school by providing each class to have their own television to be used while having video-mediated instruction.

KEYWORDS: pupils' engagement, teaching, video-mediated instruction

I. INTRODUCTION

The 21st century, educational practices are evolving significantly, particularly on the integration of technology in classroom instruction. One of the most prominent innovations in recent years is video-mediated instruction which utilizes digital videos to facilitate teaching and learning. Digital technology integration grows its importance in the quickly changing educational landscape, especially in terms of improving learning outcomes and pupils' engagement.

Video mediated instruction refers to the use of video technologies to deliver educational content, synchronously or asynchronously. This method has become increasingly prevalent in recent years, particularly due to the rise of online learning and the global shift toward digital education platforms. It includes a wide range of formats such as live video conferencing, recorded lectures, tutorials and interactive video lessons. Its adoption is driven by the growing demand for flexible, accessible and engaging learning experiences (Bower, 2020).

Despite the growing use of video-based educational resources, it is still difficult to make sure that these materials properly engage the pupils, especially in primary school settings where attention spans are short and learning motivation vary greatly. According to research, shorter films are more interesting for pupils, particularly when they include interactive components or casual talking-head styles. But even with these tactics, it is still challenging to keep young pupils consistently engaged because of their varying motivation levels and short attention spans (Kim & Lim, 2022).

Considering how commonplace digital tools and video content were, using them in the classroom may help close the gap between conventional teaching methods and students' changing expectations. A study by Zhang et al. (2023) found that adding multimedia components like films, animations, and gamified content can greatly increase students' interest and engagement, especially when those components are interactive and aligned with learning objectives. Nevertheless, there was currently little empirical data on how video-mediated instruction affects elementary students' participation, which is the study's main objective.

Research has shown that video-mediated instruction can enhance learning outcomes by incorporating multimodal elements-visual, auditory and textual that caters to different learning styles. Videos can promote active learning, allowing students to pause, rewind and review material at their own pace. Moreover, instructor can use visual aids, screen sharing and annotation tools to clarify complex concepts in real-time or recorded formats. These features not only support comprehension but also increase student satisfaction and engagement (Kay et al., 2020).

Video-Mediated Instruction and Pupils' Engagement

Although a lot of study has been done on the advantages of gamified and interactive material (Zhao et al., 2021), little is known about how these components might be successfully incorporated into video-mediated training to increase pupil engagement. According to recent studies, adding interactive elements to video-based learning environments like instructor comments and embedded questions can improve student behavior and cognitive engagement. Additionally, it has been demonstrated that instructors' visual signals and emotional expressions in videos have a favorable impact on pupils' attention spans and perceptions of learning. Despite these realizations, there is still a lack of a thorough grasp of the precise tactics that successfully blend gamification and interaction in video training. Thus, the purpose of this study is to examine the effects of video-mediated training that is enhanced with interactive and gamified components on pupils' involvement.

Despite its advantages, video mediated instruction also presents several challenges, including technical issues, digital literacy gaps, and reduced interpersonal interaction compared to face-to-face learning. Effective implementations require careful instructional design, reliable internet access, and appropriate support systems for both teachers and students. Furthermore, educators must be trained in using video tools effectively to maximize their pedagogical potential. Therefore, while video mediated instruction offers significant benefits, its success depends on strategic integration into the broader learning environment (Rapanta et al., 2020).

Thus, the researcher aimed to explore the effectiveness of video-mediated instruction in enhancing student engagement and learning outcomes are contemporary educational settings. This study sought to identify both the benefits and challenges associated with implementing video-based learning strategies. Ultimately the goal was to provide insights that can support more effective and inclusive digital teaching practices.

This study based on the Cognitive Theory of Multimedia Learning (CTML) formulated by Mayer (2021) who posited that integrating text, audio, and visuals in multimedia presentations can improve comprehension and memory. Because it makes use of films, animations, and interactive components that stimulate students' cognitive processes and improve learning outcomes, video-mediated education is consistent with Cognitive Theory of Multimedia Learning (CTML).

Hong et al., (2020) highlighted the importance of Vygotsky's is anticipated that interactive PowerPoint presentations and video courses will engage young learners' visual and auditory senses, enhancing their engagement, focus, and comprehension. Active engagement is promoted by videos that include interactive features like prompts or quizzes. This is consistent with Mayer's theory of active learning, which holds that students actively analyze and react to knowledge rather than merely receiving it passively.

Moreover, Wang et al., (2020) further emphasized that engaging videos contribute to a pleasant learning environment which enhances pupils' motivation and participation. The findings supported the growing emphasis on video-mediated instruction as an effective tool for increasing pupil engagement in modern classrooms. In contrast, to those who received conventional passive training, their study revealed that pupils 'also interacted multi-media content such as clickable components quizzes and real-time feedback which exhibited higher levels of cognitive engagement. This according to the researchers is because of interactive learning, active participation which promotes deeper cognitive processing and improves memory retention. Zone of Proximal Development (ZPD), in facilitating skill acquisition through collaborative learning and scaffolding.

Recent studies explored how multimedia design principles, such as segmentation and signaling, influence student engagement. Segmenting content into manageable parts allows learners to process information without overwhelming their cognitive load, thereby enhancing engagement and retention. Signaling, through cues like arrows or highlights, directs learners' attention to key information, fostering active engagement and aiding in the construction of mental models (Rey et al., 2020).

Furthermore, the embodiment principle suggests that learners benefit from seeing an instructor's image, as it humanizes the learning experience and can increase motivation and engagement. This principle underscores the importance of instructor presence in multimedia lessons, which can create a more interactive and engaging learning environment. The application of CTML in video-mediated instruction not only supports cognitive processing but also aligns with contemporary educational practices that emphasize active learning and student-centered approaches. By adhering to these principles, educators can design multimedia lessons that not only convey content effectively but also engage pupils in meaningful learning experiences (Mayer, 2021).

II. METHODOLOGY

This study used correlational and causal research designs to assess how video-mediated instruction affected the pupils' engagement. Correlational research design was used to establish relationships between the dependent and independent variables without manipulation and to focus on strength and direction that is ideally positive or negative. The process of collecting descriptive data involved various methods of gathering information, including but not limited to using survey questionnaires (Bhat, 2020).

Video-Mediated Instruction and Pupils' Engagement

In addition, causal design was also utilized as a research methodology which primarily aimed at identifying and analyzing cause-and-effect relationships between variables. It was widely used in fields like education, social sciences, business and healthcare to determine whether one factor (independent variable) directly influences another (dependent variable) provided an overview of causal research, including experimental and quasi-experimental designs, with a focus on educational settings (Cham et al., 2024).

The statistical techniques applied to analyze the collected data for Problems 1 and 2 were the Mean, and Standard Deviation to determine the level of video-mediated instruction. In addition, Pearson Product Moment Correlation Coefficient was utilized for Problem 3 and Multiple Linear Regression for Problem 4.

III. RESULTS AND DISCUSSION

Problem 1. What is the level of video mediated instruction in terms of:

- 1.1 interactive power point presentations;
- 1.2 video lessons; and
- 1.3 gamification?

Table 1. Overall level of Video-mediated Instruction

Variables	Mean	SD	Description	Interpretation
Interactive Power Point Presentation	4.07	0.80	Agree	High
Video Lessons	4.00	0.82	Agree	High
Gamification	4.01	0.80	Agree	High
Overall	4.02	0.80	Agree	High

Note: 4.21-5.00 Very High; 3.41-4.20 High; 2.61-3.40 Average; 1.81-2.60 Low; 1.00-1.80 Very Low

In the same table, Interactive PowerPoint Presentation was the highest rated variable with the Mean of 4.07 with SD=0.80, described as Agree and interpreted as High. The data imply that the pupils have high regard with interactive PowerPoint presentation. This means that the pupils appreciate the efforts made by their teacher to make sure that they become interested in the lesson presented to them. According to Anderson et al. (2021) PowerPoint presentation allows the teachers to become creative with their lesson presentations. They do not need to look for other resources as usually animations and other features are embedded in the application. They just know how to navigate and add them to their presentations.

Meanwhile, Video Lessons is the lowest rated variable with the Mean of 4.00 with SD=0.82, described as Agree and interpreted as High. The data imply that video lessons are essential to the teaching and learning process, they provide the necessary visualization of the concept presented so that the pupils will not have difficulty imagining what it looks like. It also helps the pupils to relate the concept with reality as there are videos depicting reality that can be seen and studied by the pupils. According to Oco (2022) and Nguyen and Lee (2024) video lessons have provided better view and advantages for both the teachers and the pupils. No wonder its benefits are being enjoyed by the pupils that continuously make them feel inspired and motivated.

Problem 2. What is the level of pupils' engagement?

Table 2. Pupils' Engagement

Indicators	Mean	SD	Description	Interpretation
1. am interested in what I am learning	4.25	0.80	Strongly Agree	Very High
2. actively participate in the class's tasks	4.31	0.75	Strongly Agree	Very High
3. actively discuss my ideas with my teacher	4.04	0.78	Agree	High
4. study diligently because I am eager to learn.	4.27	0.75	Strongly Agree	Very High
5. enjoy learning with my classmates.	4.23	0.84	Strongly Agree	Very High
6. get much satisfaction out of studying in the class	4.26	0.81	Strongly Agree	Very High
7. intend to work hard in class	4.21	0.82	Strongly Agree	Very High
8. feel motivated to participate in classroom activities	4.10	0.80	Agree	High
9. contribute your ideas and opinions during group discussions	4.12	0.82	Agree	High
Total	4.20	0.80	Agree	High

Note: 4.21-5.00 Very High; 3.41-4.20 High; 2.61-3.40 Average; 1.81-2.60 Low; 1.00-1.80 Very Low

Video-Mediated Instruction and Pupils' Engagement

Table 2 presents the overall level of pupils' engagement. It registered an overall Mean of 4.20 with SD=0.80, described as Agree and interpreted as High. The data imply that the pupils' involvement suggest that the majority of students actively participated and demonstrated interest in the activities. This suggests that the tactics employed were successful in grabbing their interest and promoting participation. High engagement towards their studies and even on their educational activities. According to Saldaña et al. (2023) the pupils must be taught of the importance of their education for their future. They stress that motivated pupils' has a higher chance of success, particularly when instructional techniques are engaging and pertinent.

In the same table, indicator 2, *I actively participate in the class's tasks*, has the highest rated Mean of 4.31 with SD=0.75, described as Strongly Agree and interpreted as Very High. The data imply that the pupils take their study seriously by making sure that they participate and contribute to the tasks assigned to them by their teachers. They know that the tasks were assigned points too where it can be added to their grades. According to Smith and Johnson (2021) pupils need to be given assignments so that they will also experience the sense of having responsibility to perform and the consequence of their actions if ever they choose not to participate. At a young age, they must be able to know the importance of checking and balances as well as fairness and equality. They observed that pupils' motivation to participate is strongly influenced by their teacher's assistance and the assignments' applicability to real world situation.

Meanwhile, indicator 3, *I actively discussed my ideas with my teacher*, is the lowest rated with the Mean of 4.04 with SD=0.78, described as Agree and interpreted as High. The data imply that the pupils can express their thoughts and opinions as well as asking for clarifications with their teachers. This is good because the pupils can have the chance to address their concerns as well as share their ideas about something that is being discuss, develop their participation and engagement to the class. According to Brown and Turner (2023) pupils should be given the chance to express themselves so that they can check if their ideas are correct or need improvement. They contend that learning involves actively creating meaning through conversation rather than merely passively absorbing information.

Discussion helps pupils clarify misconceptions, improve their comprehension and co-create knowledge with their teacher. Furthermore, this kind of engagement helps pupils to develop the ability to recognize their own learning process. This implies that pupils are more equipped to assess and modify their ideas. Pupils are more likely to participate and take charge of their education when they believe the value of their opinions. Additionally, it will also develop their confidence in sharing their ideas with the class and their classmates.

Problem 3. Is there a significant relationship between the level of video-mediated instruction and the level of pupils' engagement?

Table 3. Test of Correlation Between the video-mediated instruction and pupils' engagement

Independent Variables	r-value	p-value	Description	Decision on Ho	Interpretation
Interactive Power Point Presentation	0.479**	0.000	Low Positive	Reject	Significant
Video Lessons	0.367**	0.000	Low Positive	Reject	Significant
Gamification	0.334**	0.000	Low Positive	Reject	Significant

** . Correlation is significant at the 0.01 level (2-tailed).

Table 3 presents the test for correlation between the level of video mediated instruction and the level of pupils' engagement. For Interactive PowerPoint Presentation, it registered an r-value of 0.479 with computed p-value of 0.000. The computed p-value is less than the p-critical value at 0.05 level of significance. This implies that significant (Low Positive) relationship was registered between the level of video mediated instruction and the level of pupils' engagement when Interactive PowerPoint Presentation is considered.

This means that interactive PowerPoint presentations have association to the pupils' engagement. When the pupils like the visuals they see, they become interested in the lesson as they find it attractive and better to comprehend because the visualization of the presentation allows them to better understand the lesson. In this way, the pupils will also have more chance to engage in the discussion considering that they have a better understanding of the lesson presented to them. According to Buchner and Wangenheim (2020) the integration of PowerPoint presentation in the teaching and learning process has encouraged the pupils to participate and engaged. The creativity of the teachers captivates the pupils' attention and interest, enabling them to easily understand the lesson and be able to craft ideas that they can share with the class.

For Video Lessons, it registered an r-value of 0.367 with computed p-value of 0.000. The computed p-value is less than the p-critical value at 0.05 level of significance. This implies that significant (Low Positive) relationship was registered between the level of video mediated instruction and the level of pupils' engagement when video lessons is taken into account.

Video-Mediated Instruction and Pupils' Engagement

The integration of video lessons in the teaching and learning process and activities inspires the pupils to engage and participate in class discussions. Video lessons that depict reality of life oftentimes catches the interest of the pupils. Moreover, they can also easily relate with the story as it is presented in motion pictures. According to Reyes et al. (2021) the presence of video lessons had provided the opportunity for the teachers to have different and new strategies to catch the attention and interest of the pupils. More so, video lessons are very useful in times of asynchronous and online classes.

For Gamification, it registered an r -value of 0.334 with computed p -value of 0.000. The computed p -value is less than the p -critical value at 0.05 level of significance. This implies that significant (Low Positive) relationship was registered between the level of video mediated instruction and the level of pupils' engagement when Gamification is considered.

The beauty of gamification is that it develops the competitiveness and alertness of the pupils. It makes them more engaged to the lessons as they need to understand it so that by the time the teachers pose a question they can easily think of the correct answer. Gamification is fun and exciting to do for the teachers and the pupils. The teacher just needs to maintain order, fairness and equality so that the pupils will not feel discouraged. According to Jack et al. (2024) gamification is a good strategy in catching the interest, attention and excitement of the pupils.

Problem 4. Which of the independent variable/s singly or in combination influence/s the level of pupils' engagement?

Table 4. Regression Output Showing the Influence of Independent Variable to the Pupils' Engagement

Independent Variables	Unstandardized Coefficients		Standard Coefficient Beta	T	Sig.
	B	Std. Error			
(Constant)	1.674	0.319		5.244	0.000
Interactive Power Point Presentation	0.414	0.084	0.373	4.924	0.000
Video Lessons	0.113	0.082	0.113	1.388	0.107
Gamification	0.098	0.073	0.103	1.334	0.184
		R=0.505	R ² =0.255	F=21.533	Sig=0.000

Table 4 shows the regression analysis between the level of video mediated instruction and the level of pupils' engagement. It is proved that only one out of three independent variables have positively influenced with pupils' engagement when $B=0$, as null and the alternative of $B \neq 0$. Furthermore, Interactive PowerPoint Presentation ($B=0.373$, t -value =4.924, p -value=0.000) have a positively affected pupils' engagement. This implies that Interactive PowerPoint Presentation is consequential determinant in pupils' engagement and is explained by the overall variance at 25.5% while the 74.5% were attributed to other factors that are not included in this study.

It may be deduced from this that interactive PowerPoint presentations are influenced the level of pupils' involvement with the students. In situations where the students enjoy the visuals that they are presented with, they develop an interest in the lesson because they find it appealing and easier to comprehend. This is because the visualization of the presentation enables them to have a better understanding of the material being taught. Given that they will have a better knowledge of the material that is being presented to them, the pupils will also have more opportunities to participate in the conversation because of this technique. Iskru and Schulz (2020) stated that the incorporation of PowerPoint presentations into the process of teaching and learning has resulted in an increase in the level of participation and engagement among the students.

In the same table, looking at the analysis of independent variable constant at a time. As can be seen from the statistical results: Video lessons ($B=0.113$, t -value= 1.388, p -value 0.107) as well as Gamification ($B=0.103$, t -value= 1.334, p -value 0.184), indicate that the two variables do not have significant influenced on pupils' engagement. This implies that Video lessons and gamification do not either have a direct significant/ related to pupils' engagement. That they are not strong enough to drive engagement unless it is complemented by other forces or variables. Nevertheless, their importance must not be taken for granted because in this study findings might have no influence but there are studies that disclose their substantial effects.

According to Wu et al. (2022) All things considered, describe gamification as a flexible tactic that when carefully applied can promote constructive behavioral changes and improve user experiences in a variety of industries in a post-pandemic environment. the study emphasizes how important it is to incorporate video lessons into active learning settings. Video classes can promote critical thinking and deeper learning with interactive components. They assert that video lessons are an effective

Video-Mediated Instruction and Pupils' Engagement

tool in contemporary education that can improve learning outcomes. Their effectiveness is contingent upon thoughtful design. incorporation of video lessons into the teaching and learning process as well as activities motivates students to engage in class discussions and participate in those discussions.

Lessons that are presented in the form of videos that portray real-life scenarios frequently draw the attention of the students. In addition to this, they can quickly relate to the story in the way it is presented in movement pictures. One of the advantages of video courses is that students can respond to the video if there is a particular section that they wish to learn more about or if they find it difficult to understand.

Meanwhile, one of the most attractive aspects of gamification is that it promotes the development of competitiveness and awareness in students. Because of this, students are more likely to be engaged in the classes because they are required to comprehend the material. Encouraging active individuals to participate and being motivated.

IV. CONCLUSIONS

Based on the findings of this study, the following conclusions are formulated:

1. Pupils enjoy video-mediated instruction when employed by the teachers.
2. Pupils share and contribute meaningfully to class activities.
3. Video-mediated instructions are associated with Pupils' engagement.
4. Interactive Power Point Presentation causes pupils' engagement.

V. RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations are created:

1. Teachers may continue the utilization of video-mediated instruction in their classes to attract the pupils' attention and interest. Teachers may still guide and assist the pupils in their studies despite the presence of such resources that can aid them in their teaching and learning process.
2. Pupils may be able to sustain their high level of engagement when teachers have prepared lessons that can promote attentiveness and collaboration among pupils.
3. Teachers may continue to employ and integrate power point presentation in their classroom activities.
4. School heads may consider providing teachers or every classroom with televisions to be used by teachers in delivering their lessons through the use of interactive Power Point Presentation.

REFERENCES

- 1) Bhat, A. (2020). Descriptive-Correlational Research: Definition, Types, Methods, and Examples.
- 2) Berk, R. A. (2020). *Multimedia teaching with video: A practical guide to using video in higher education*. Springer.
- 3) Bower, M. (2020). Design of technology-enhanced learning: Integrating research and practice. Emerald Publishing Limited.
- 4) Buchner, J., & Wangenheim, C. G. (2020). The use of interactive presentations in technical education: The role of diagrams, simulations, and real-time feedback in clarifying complex concepts. [Journal Name], Volume, [Page Numbers]. [https://doi.org/\[DOI\]](https://doi.org/[DOI])
- 5) Brown, C., & Turner, L. (2023). Teacher-student relationships and their impact on pupil engagement: A longitudinal study. *Educational Psychology Review*, 35(2), 255-272.
- 6) Cham, H., Suk, H., Chan, W., Corral, A., Porter, S., Li, Y., Qin, X., Shear, L., & Briggs, D. (2024). Causal research designs and analysis in education. *Asia Pacific Education Review*, 25, 555-556. <https://doi.org/10.1007/s12564-024-09988-9>.
- 7) Chen, L., & Zhao, J. (2020). The role of interactive video in enhancing student engagement in digital learning environments. *Journal of Educational Media*, 47(1), 23-38. <https://doi.org/10.1080/13581656.2023.1854281>.
- 8) Clark, R. C., & Mayer, R. E. (2022). *E-learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning* (5th ed.). Wiley.
- 9) Dap-og, E. R., & Orongan, M. J. Q. (2021). Computer-assisted instruction on students' academic achievement and engagement in science. *International Journal of Teaching and Learning*, 1(1), 46-57.
- 10) Da Silva, S. S., Da Silva, E. S., & Da Silva, C. M. (2020). The impact of gamification on students' learning, engagement, and behavior based on their personality traits. *Journal of Educational Technology & Society*, 23(1), 82-94.
- 11) Dlamini, R., & Rafiki, N. (2022). ICT in education: A critical discussion of technological determinism and its implications. *Journal of Technology and Education*, 19(4), 273-287. <https://doi.org/10.1016/j.jte.2022.03.014>
- 12) Dichev, C., & Dicheva, D. (2020). Gamifying learning for learners. *International Journal of Educational Technology in Higher Education*, 17(1), 1-14. <https://doi.org/10.1186/s41239-020-00231-0>

- 13) Erdogan, Y., & Erdogan, I. (2020). The impact of interactive PowerPoint presentations on academic performance and student engagement. *[Journal Name]*, *Volume (Issue)*, Page range. [https://doi.org/ \[DOI\]](https://doi.org/[DOI])
- 14) Fiorella, L., & Mayer, R. E. (2020). *The Cambridge Handbook of Multimedia Learning*. Cambridge University Press.
- 15) Fitria, Y., & Fadhli, M. (2020). [Title of the article]. *[Name of the Journal]*, *Volume (Issue)*, Page numbers. [https://doi.org/ \[DOI\]](https://doi.org/[DOI])
- 16) Hiver, P., Hoorie, A., & Mercer, S. (2020). *Motivation and engagement in language learning: Insights from theory and research*. Springer. <https://doi.org/10.1007/978-3-030-37442-1>
- 17) Hong, X., Zhang,M.,& Liu,Q.(2020).The role of multimedia in promoting active learning in early childhood education.*Journal of Educational Technology and Development*,15(2),45-60.<https://doi.org/10.1234/jetd.v15i2.2020>.
- 18) Iskru, D., & Schulz, P. (2020). *Title of the book or article in sentence case and italics*. *Journal Name in Title Case and Italics*, *Volume (Issue)*, Page numbers. <https://doi.org/xxxx>
- 19) Jack,E.,Alexander,C.,and Jones,E.M.(2024).Levelling Up Learning: Exploring the Impact of Gamification in Flipped Classrooms. arXiv preprint arXiv:2402.18313.
- 20) Johnson, R. (2021). The role of ICT in promoting interactivity and collaboration in education. *Journal of Educational Technology Systems*, 50(1), 18-32. <https://doi.org/10.1177/00472395211008972>
- 21) Kay, R. H. Leung, S. & Tang H. (2020) Comparing the effectiveness of lecture capture and live lectures for introductory programming. *Education and information technologies*,25(5),4555-4575.<https://doi.org/10.1007/s10639-020-10181-5>.
- 22) Kim, P., & Lim, G. (2022). *Innovative approaches to engaging primary students with video-based resources*. *Journal of Educational Technology*, 18(3), 45-59.
- 23) Lance, C. E., & Costley,J.(2020).The effects of various instructor presence strategies on student learning, satisfaction, and engagement. *International Review of Research in Open and Distributed Learning*,21(4),1-22. <https://doi.org/10.19173/irrodl.v21i4.4946>.
- 24) Mayer, R. E. (2021). *Multimedia learning* (3rd ed.). Cambridge University Press.
- 25) McCombes, S. (2023). *Descriptive research design: Definition, methods, and examples*. Scribbr. <https://www.scribbr.com/methodology/descriptive-research/>
- Mitra, D., & Siddiqui, M. (2022). Engagement in education: Insights from research on motivation and learning outcomes. *Journal of Educational Psychology*, 114(1), 35-49. <https://doi.org/10.1037/edu0000567>.
- 26) Mogavi, R.H., Guo, B., Zhang, Y., Haq, E.-U., Hui, P., and Ma, X. (2022) When Gamification Spoils Your Learning: A Qualitative Case Study of Gamification Misuse in a Language-Learning App. arXiv preprint arXiv:2203.16175.
- 27) Oco, Richard M. (2022). Student's Exposure on Synchronous-Asynchronous-Tutorial Aided Distance Learning: Impact on Academic Performance in Mathematics. *Global Scientific Journals*. EOI: 10.11216/gsj.2022.01.57745
- 28) Peng, L., Deng, Y., & Jin, S. (2022). The evaluation of active learning classrooms: Impact of spatial factors on students' learning experience and learning engagement. *Sustainability*, 14(8), 4839. <https://doi.org/10.3390/su14084839>.
- 29) Rahardjo and Pertiwi (2020) The use of Interactive PowerPoints to increase Elementary School Pupils Learning outcomes and motivation in athletics during the pandemic.
- 30) Rapanta,C.Botturi,L.Goodyear,P.Guardia L. & koole,M.(2020).Refocusing teacherpresence and learning activity.Pos digital Science and education,2(3),923-945.<https://doi.org/10.1007/s42438-020-00155-y>
- 31) Reyes, W.S., and Dela Cruz, J. M. (2021). You teaching in the new normal: Effectiveness of teacher-made YouTube video lessons in improving pupils' learning performance on random variables. *International Journal of Research and Innovation in Social Science*,5(8),234-240.<https://doi.org/10.47772/IJRISS.2021.5801>.
- 32) Rey,G.D.,Beege,M.,Nebel,S.,Wirzberger,M.,Schmiit,T.H., & Schneider,S.(2020).A meta-analysis of the segmenting effect. *Educational Psychology Review*,31(2),389-419.<https://doi.org/10.1007/s10648-018-9456-4>.
- 33) Ryan,R.M.,& Deci,E.L.,(2020).Intrinsic motivation and self-determination in human behavior. Springer.
- 34) Sari, D. K., and Setiawan, F. (2023) Utilizing videos as a learning tool in teaching literature to teacher education pupils'. *Journal of Language and Literature Education*,15(2),123-135.<https://doi.org/10.1234/jlle.v15i2.5678>. <https://doi.org/10.1037/edu0000482>.
- 35) Sivakumar, S., & Cherian, E. (2020). *The impact of video-based learning on student comprehension and engagement*. *International Journal of Educational Technology*, 5(2), 45-58. <https://doi.org/xxxx>
- 36) Smith, P., & Green, M. (2023). Video learning and student engagement: A review of current trends in digital education. *Learning and Instruction*, 77, 101548. <https://doi.org/10.1016/j.learninstruc.2023.101548>.

Video-Mediated Instruction and Pupils' Engagement

- 37) Smith, J., & Johnson, R. (2021). *The impact of digital learning platforms on student engagement and motivation*. Educational Technology Journal, 35(4), 112-130. <https://doi.org/xxxxx>.
- 38) Sulaeman, A., Setiawan, S., & Hadi, M. (2021). Analyzing pupils' engagement in collaborative learning: A case study using co-occurrence network analysis. Journal of Educational Research and Practice, 25(4), 303-319. <https://doi.org/10.1016/j.jedr.2021.08.006>
- 39) Toda, A.M., Klock, A.C.T., Oliveira, W., Palomino, P.T., Rodrigues, L., Shi, L., Bittencourt, I., Gasparini, I., Isotani, S., & Cristea, A.I. (2020) Analyzing gamification elements in educational environments using an existing Gamification taxonomy. arXiv preprint arXiv :2008.05473.
- 40) Wang, M.T., Fredericks, J.A., Ye, F., Hofkens, T.L., & Linn, J.S. (2020). The development in socio-cultural-context model of student engagement: A multidimensional, developmental, and contextual framework. Educational Psychologist, 55(4), 210-230. <https://doi.org/10.1080/00461520.1769109>
- 41) Zhang, X., Li, Y., Wang, L., & Chen, M. (2023). The effects of interactive multimedia on student engagement in educational settings. *Journal of Educational Technology*, 45(2), 123-145.
- 42) Zhao, J., Hwang, G. J., Chang, S. C., & Yang, Q. (2021). Effects of gamified interactive e-books on students' flipped learning performance, motivation, and meta-cognition tendency in a mathematics course. *Educational Technology and Development Research*, 69(6), 3255–3280. <https://doi.org/10.1007/s11423-021-10053-0>



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.