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# Engagement of Accounting Students in Learning Environment with the Implementation of Authentic-Based Multimedia in Nigerian Tertiary Institutions

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## Abstract

The demand for university education to produce good graduate students for emerging nations to deal with global adjustments in the learning environment looks to be increasing as global technological advancements accelerate. Although, educational institutions could evolve technologically to increase students' potential to differentiate, particularly in mathematics and vocational education. As Accounting is concerned, it is one of the undergraduate courses that incorporate learning from other disciplines as well as vocational education. Nevertheless, student outcomes in accounting have remained inadequate, owing to high dropout rates and low engagement due to insufficient teaching techniques, resulting in weak sensory thinking skills needed for success. therefore, the purpose of this article is to bridge the gap by investigating an authentic-based multimedia learning environment to improve student engagement in the teaching of accounting education in Nigerian higher institutions. Constructivist learning methodologies are being investigated in conjunction with Mayer's cognitive theory of multimedia learning, cognitive engagement theories, and behavioral engagement theories in order to solve these challenges, which is critical for engaging students in many emerging nations. For this analysis, 90 respondents were chosen from a total population of 120 undergraduate accounting students. Data was collected through questionnaire surveys and semi-structured interviews with open-ended questions. The study's results are important for instructors and administrators who seek to increase student participation in multimedia learning environments in their classroom teaching. Future studies could emphasize on the difficulties of adopting authentic-based multimedia learning while keeping students engaged. To conclude, the federal government, higher education officials, curriculum designers, and accounting teachers are all working together to boost student engagement in Nigeria's multimedia learning environment, as shown in this article.

**Keywords:** Authentic-Based Multimedia, Engagement, Learning Environment, Skills, Accounting Education

## 1. Introduction

Technology as scientific knowledge is applied in practical ways to produce new things, as well as the distinct capacity to construct or build things. Also, nobody can doubt that technology is significant and plays an essential part in today's learning environment. Sawang et al. (2017) asserted that technology's progress is a standard in the learning process as many researchers are attempting to improve the learning process using technology as a means of improving students' attitude, involvement, and imaginative thinking. Students' engagement, confidence, and

pleasure are increased when technology is used in the teaching and learning process (Wang & Tseng, 2018). Multimedia activities have been incorporated into the engagement method of teaching, which will aid in the development of the students' intellectual thinking skills during the learning process. Therefore, in this regard, it is relevant to use technology in the classroom to improve students' learning environments. Whereby, learning is shown to be more successful when done using pictures and information rather than just words. Although technology has a significant influence on learning and some teachers are hesitant to include it into their curriculum (Chen, 2010). Multimedia learning is an effective technique of learning in today's world since it captures learners' attention and aids in the development of their comprehension of certain subjects. Which is one of the finest teaching strategies since it engages and arouses more than one sense at the same time, as it recognises the senses of vision and hearing while presenting varied stimuli (Bhutto et al., 2018). Although, there is no perfect way to improve student engagement in the learning environment, but technological teaching strategies have been shown to increase student engagement in a large class with the effectiveness of innovations to learning outcomes, transforming the traditional method of teaching into a very effective learning approach in the classroom (Martin & Bolliger, 2018). Effective learning, on the other hand, exists when the student is focused on the cognitive process of learning. Lock & Duggleby, (2017) asserted that the implementation and support of genuine learning in the world teaching is complicated, necessitating a degree of uncertainty in opening up educational techniques to solutions such as thinking about real challenges while engaging students with the potential to learn relevantly by connecting effectively with different peers. Whereas, students' usage of technology media inside the university setting to distribute knowledge through accessible means was linked to difficulties with learning engagement in this study. However, when the multimedia is misapplied and insufficiently given to students, learning can be hampered, contributing to a lack of comprehension of the students' interest and drive to study efficiently in the educational setting (Bond & Bedenlier, 2019). As a result, using an authentic-based learning environment will give significant support for students to be able to create the needed abilities in the actual world, free of distractions, dissatisfaction, and difficulties in classroom learning environment.

## 2. Literature review

### 2.1. *Engagement through multimedia authentic-based learning*

Various research findings have revealed that multimedia can convey knowledge and receive information, while also supporting students in creating visualizations of the genuine learning environment that are either untapped or underutilized (Made & Made, 2018). As a result, engaging multimedia learning fosters cooperation between students and learning media, as well as between students and their own information, enabling better learning goals. In terms of learning, most people absorb information based on what they hear and see (Bhutto et al., 2018). Multimedia learning outlines how people may learn more by combining words, pictures, books, and audio and video presentations. Darling-Hammond et al., (2020) observed that students engaged in the learning environment, on the other hand, will be required to be active in their own classroom activities in order to solve problems that are difficult to solve, as well as to work quickly and effectively in promoting the learning process in which they are exposed to diverse perspectives in order to solve their difficulties. Furthermore, the learning process is interactive with technology as a responsive reaction, allowing students to build both cognitive and behavioral abilities in order to connect with multimedia sensory information. Collectively, participants find multimedia resources, tools, interactive media, and learning materials, and they feel that multimedia can help them learn more effectively (Clark & Feldon, 2014).

### 2.2. *Engagement through authentic learning*

Students must be able to convey their views and ideas to others in order to remain interested in the connected themes being taught, and the more students are directly tied to what is being learnt and the utilization of real-world experiences suggests that if students identify classroom learning with the actual world, they would appreciate learning that contributes to engagement more. Herrington & Kervin, (2007) supported that authentic learning is important in the classroom because it allows students to encounter real-world situations and includes concepts of authentic learning principles to apply theoretical information in a real-world setting with the use of multimedia.

To posit the traditional technique, authentic-based learning was proposed (Kamariah et al., 2018) as the design materials utilized for students' accomplishment for a better understanding of learning in the classroom setting. As a result, using the multimedia interactive program me to engage the student cognitive abilities would respond to the authentic learning technique (Herrington & Kervin, 2007) on the student learning process inside the multimedia learning environment employing learning techniques shown in the figure below:

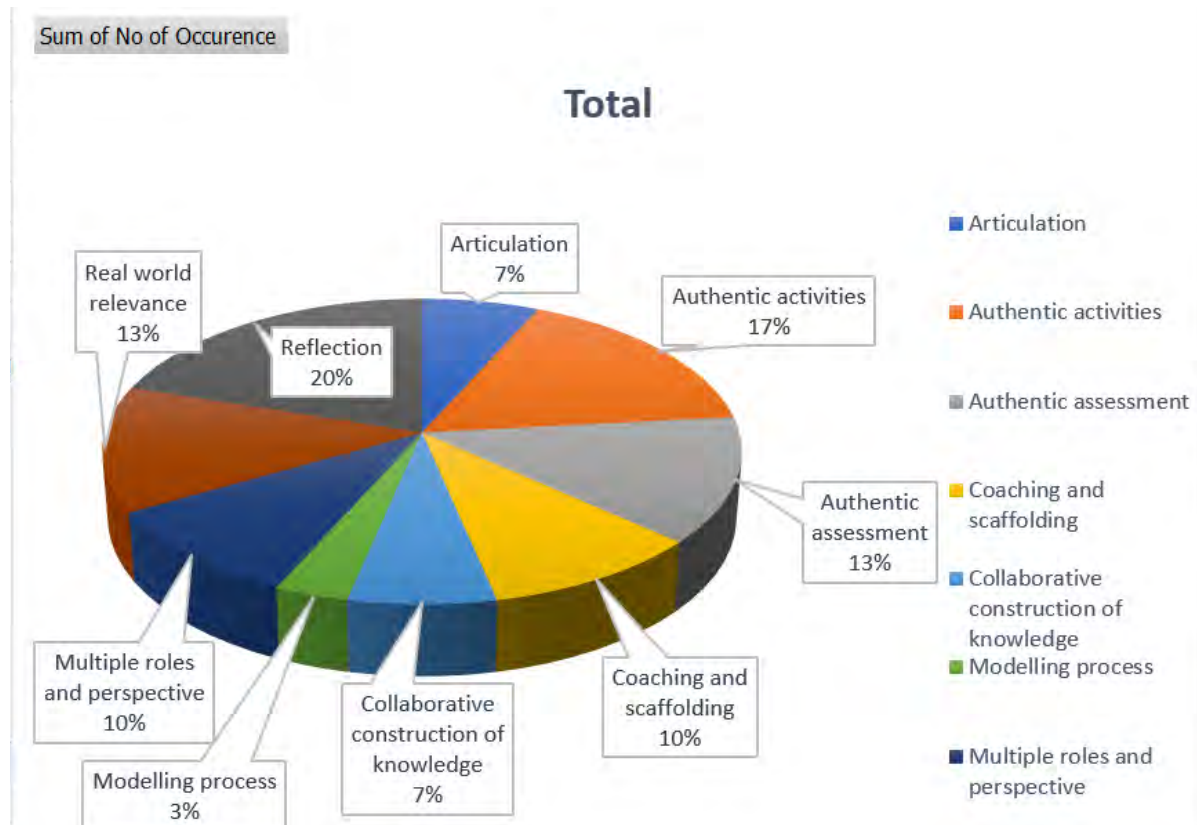


Figure 1: Elements of Authentic-based learning environment

Students will benefit even more from the incorporation of interactive multimedia since it stimulates authentic-based activities elements in assessing and organising their understanding in the actual world (Kola & Kehinde, 2019). Also, transfer of learning was boosted when learning materials incorporated significant aspects found in the application environment. Over time, tests of the idea yielded highly varied findings, owing primarily to the difficulty of defining which characteristics of a transfer environment were relevant (Perkins & Salomon, 2012). This implies that genuine learning settings investigates instructor feedback and realistic teaching approaches in the classroom to improve learning and help students attain academic success. Authentic learning context, according to Roach et al., (2018) is a means of reflecting on students' real-life situations in order to acquire new views and skills in detail rather than hearing and memorizing learning contents. Therefore, by having a strong similarity to real-world surroundings and using a range of audio-visual aids to bridge the gap between learning and the scope of the actual world, multimedia creates the sense of genuine learning. Hence, Ramlatchan, (2019) indicated that the theory of multimedia may be designed utilizing several contexts of learning where students learn through words, images, video, and graphics. This is in accordance with the use of multimedia to boost the students' cognitive abilities in addressing difficulties with the medium usage of graphics, text, video clips, and visual aids to strengthen their cognitive thinking, because multimedia may be used to replace traditional textual instructions, a wider range of stimuli, both verbal and visual, can be used to promote student engagement in an authentic learning environment.

### 3. Overview problem

Essential education is crucial for a person to have the skills and abilities to apply and execute information in a fast-changing world of comprehensive economy need, innovation, and modernization. The capacity to properly collect and use information is no longer a privilege, but rather a developmental imperative. However, when it comes to academic usage of multimedia materials, most underdeveloped nations, notably in Africa and Nigeria, are already on the wrong side of the digital technology. Except if Nigeria wants to be a key participant in the global market for ideas and prepare its people for the changing environment, the country should use multimedia resources to aid learning and teaching, as well as to encourage the growth of high-level technology in students' studies. The primary is that there is no ideal technique to increase student engagement in the classroom, however technology teaching tactics have been shown to increase student engagement in a big class with the efficacy of innovations to learning outcomes, transforming the traditional style of teaching into a highly successful learning strategy in the school environment. This is why lack of student involvement with the teaching style has been identified as a significant issue and the current research examines real learning multimedia to help students participate in cognitive and behavioral activities. This has also made students perform badly in accounting education in the past as a result of their attitudes toward the course, which is overly mathematical in structure. This issue has been related to the teaching methodology of the teachers.

### 4. Methodology

This quantitative study was carried out to better understand and examine the usage of multimedia in the teaching and learning environment. Accounting students of second year were taken randomly as samples for conducting Survey. Both sources of data were used, for the primary data a survey questionnaire was developed to get the findings. SPSS edition 21.0 was used for analysis and findings. Various statistical tests were utilized based on the study requirements. The reliability and validity of the obtained data were assessed using the Cronbach's Alpha reliability scale. The mean scores of the variable were determined using descriptive statistics.

### 5. Experiment/ Design

This study was conducted in the in the Higher institutions in South-West, Nigeria with 90 students from second year (200L). As a form of teaching, two different learning environments were provided, the first being traditional face-to-face lecturing on a white board and the second being multimedia learning. The authentic learning principles were used for the classes to engage the accounting students where multimedia animation was created in the entire process as shown in Figure 2.

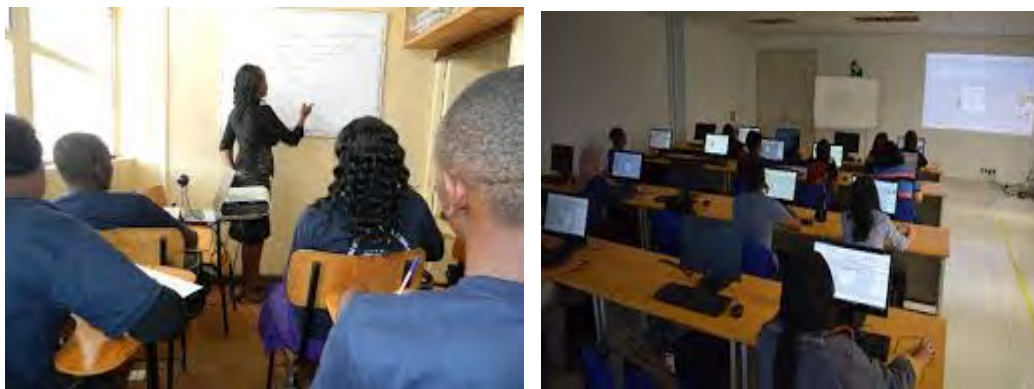


Figure 2: The snapshot of face-to-face lecturing class and multimedia learning class section

In the first module the lecture was given at white board on Multiple topics such as financial accounting concepts, Nature and purpose of Accounting, Bank reconciliation and accounting information with explanation and in second

module the same lectures were delivered on Multimedia projector with interactive interface and Multimedia activity-based.



Figure 3: Screenshots of Authentic-based multimedia learning environment interface.

## 6. Results

The results are divided into two sections: Face-to-face teaching mode and authentic-based multimedia teaching mode. The table 1 and table 2 show the reliability and mean scores statistics of the face-to-face teaching mode. There were 15 items in questionnaire related to mode of teaching. In table it can be seen the Mean Score and Reliability Statistics of face-to-face mode. Although, mean score calculated (4.273) along with the Reliability (.656) can be observed in tables respectively.

Table 1: Reliability Statistics

Cronbach's Alpha	No of Items
.656	15

Table 2: Mean Score

Mean Score	No of Items
4.273	15

### (b) Authentic-based multimedia teaching mode

The table 3 involves of the statistical data about the mean score and reliability of authentic-based Multimedia teaching mode. In table, it can be seen that the Mean score is increased from (4.273) to (5.906) however, the Reliability also improved from the (.656) to (.842) correspondingly in table 3 and table 4.

Table 3: Reliability Statistics

Cronbach's Alpha	No of Items
.842	15

Table 4: Mean Score

Mean Score	No of Items
5.906	15

Table 5 summarises the results in a greater detail and the table displayed statistical information for both kinds of teaching, face-to-face teaching and multimedia teaching; based on the results, it can be stated that authentic-based multimedia learning aids students to learn more effectively in the learning environment.

Table 5: Summary of Statistics

Total sample size (90)	Face-to-face teaching mode	Authentic-based Multimedia teaching mode.
Mean Score	4.273	5.906
Reliability	.656	.842

## 7. Findings

Implementation of authentic-based multimedia learning environment among tertiary institutions students in Nigeria.

Table 6: Implementation of authentic-based multimedia learning environment among tertiary institutions students

Citation	Journal	Type of study	Findings
Aina Jacob Kola & Ajiboye Kehinde (2019)	Üniversitepark Bülten, Vol 8 Pg 7–18	Review	-Slow pace of technological development. -Absence of authentic learning in science and technical education.
Bature Iliya Joseph & Atweh Bill (2020)	International Journal of Educational Methodology Vol 6, Pg 319 - 335.	Qualitative Survey	-Challenges adopting the new pedagogy as a tool to achieving effective classroom practice -There is a lack of interest towards mathematics by students.
Lisa Bell, Jill Aldridge & Barry Fraser (2014)	Researchgate.net/publication/228886147	Mixed method	Using student feedback provides an authentic learning experience that gives teachers the opportunity to monitor, reflect and act to improve what they do in the classroom.
Heidi Tan Yeen-Ju & Neo Mai (2016)	International Journal of Social Science and Humanity, Vol. 6 Pg 536-540	Mixed method research	The learning environment was designed to be authentic, centering on a problem-based group project and incorporated web technologies
Albinus Silalahi, Wesly Hutabarat, Simson Tarigan & Yogi Chandra (2018)	Asian Journal of Social Science Studies Vol. 3, Pg	Empirical survey	lack teacher expertise and lack of technology facilities and infrastructure to enabling them to integrate the learning materials with the IT learning technology

Research carried out by (Kola & Kehinde, 2019) on the enhancement of technology in education through authentic learning in science and technical education in Nigeria shows that, this form of learning has a high retention rate and is retrievable in life, according to the principles of constructive argument theory which implies that authentic learning could be part of the solution to the national security challenges faced in Nigeria today. To ensure the achievement of real learning in science and technical education as a strong foundation for technology integration, a paradigm change in teaching methodologies to survey methods is required. Also in 2019, (Bature, 2020) conducted another research on, how academic instructors feel about the use of Productive Pedagogies as a strategy for changing the learning classroom environment practice in Nigerian schools. This revealed that in Nigerian learning classrooms, the conventional teacher-centered learning culture should make way to student-centered learning. Instead of the conventional role of teaching and providing instructions or knowledge to their students, instructors should display a readiness to give more of their duties to the students and take a passive role of supervision and assistance. It also showed that classroom debates and dialogues assist instructors in providing a

basis for guiding their students in developing and constructing their own ideas, skills, concepts, and/or procedures in order to enhance their performance in accord with (Bell et al., 2009). Therefore, the implication to this finding revealed that the approach of transforming from conventional classroom to a more reliable classroom environment assists accounting students engaging in a real collaborative learning classroom environment with authentic-based multimedia learning. This is an indicative of the fact that; conventional teacher-centered approach has previously dominated in Nigerian accounting classrooms which suggested that accounting instructors encountered early difficulties in embracing the new strategy as a tool for obtaining effective classroom learning environment.

## 8. Conclusions

Based on the fact that multimedia technologies are widely used by students and teachers, little is known regarding their influence on student involvement in the classroom. There are various reproaches for increasing student engagement. Interactive activities can be used to accomplish this because it will enable the students to retain more of the knowledge and abilities that are imparted to them as a result of it. The conclusions' statistical significance implies that multimedia has the potential to engage students in a real-world learning environment. Implementation of multimedia presentations like as videos, audio, and pictures have been found to be an appealing approach for students to study and enhance their cognitive performance. Hence, students at the higher-level benefit from the usage of multimedia because they gain a better knowledge of numerous ideas. As a result, future research should focus on creating a dynamic and interesting learning environment, and instructors should be educated how to efficiently use the tools available to them.

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## References

- Bature, I. J. (2020). Mathematics Teachers Reflection on the Role of Productive Pedagogies in Improving their Classroom Instruction. *International Journal of Educational Methodology*, 6(2), 319–335. <https://doi.org/10.12973/ijem.6.2.319>
- Bell, L., Aldridge, J. M., & Fraser, B. J. (2009). *Examining the Effectiveness of Teacher Professional Development in an Authentic Learning Environment as Part of a Whole School Initiative for School Improvement*. October 2014.
- Bhutto, G. A., Bhatti, Z., Rehman, S., & Joyo, S. (2018). Multimedia Based Learning Paradigm For School Going Children Using 3D Animation. *Journal of Information and Communication Technology*, 2(4), 202–207.
- Bond, M., & Bedenlier, S. (2019). Facilitating Student Engagement Through Educational Technology: Towards a Conceptual Framework. *JOURNAL OF INTERACTIVE MEDIA IN EDUCATION* Bond, 1, 1–14.
- Chen, C. (2010). Teaching problem solving and database skills that transfer. *Journal of Business Research*, 63(2), 175–181. <https://doi.org/10.1016/j.jbusres.2009.03.005>
- Clark, R. E., & Feldon, D. F. (2014). Ten common but questionable principles of multimedia learning. *The Cambridge Handbook of Multimedia Learning, Second Edition*, 151–173. <https://doi.org/10.1017/CBO9781139547369.009>
- Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science*, 24(2), 97–140. <https://doi.org/10.1080/10888691.2018.1537791>
- Herrington, J. (2006). Authentic e-learning in higher education : Design principles for authentic learning environments and tasks. *World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education, October*, 13–17.
- Herrington, J., & Kervin, L. (2007). Authentic learning supported by technology: Ten suggestions and cases of integration in classrooms. *Educational Media International*, 44(3), 219–236. <https://doi.org/10.1080/09523980701491666>
- Kamariah, A., Husain, D., Atmowardoyo, H., & Salija, K. (2018). Developing Authentic-based Instructional



- Materials for Writing Skill. *Journal of Language Teaching and Research*, 9(3), 591. <https://doi.org/10.17507/jltr.0903.19>
- Kola, A. J., & Kehinde, A. (2019). *ÜNİVERSİTEPARK Bülten | Bulletin Authentic Learning in Science and Technical Education ( STE ) to Enhance Technologies in Education , Nigeria Authentic Learning in Science and Technical Education ( STE ) to Enhance Technologies in Education , Nigeria*. 8(1), 7–18. <https://doi.org/10.22521/unibulletin.2019.81.1>
- Lock, J., & Duggleby, S. (2017). Authentic Learning in the Social Studies Classroom: Connecting Globally. *One World in Dialogue*, 4(1), 20–27. [https://ssc.teachers.ab.ca/SiteCollectionDocuments/OneWorldInDialogue/OneWorldinDialogue\\_2016Vol4No1/Lock and Duggleby.pdf](https://ssc.teachers.ab.ca/SiteCollectionDocuments/OneWorldInDialogue/OneWorldinDialogue_2016Vol4No1/Lock and Duggleby.pdf)
- Made Rajendra, I., & Made Sudana, I. (2018). The Influence of Interactive Multimedia Technology to Enhance Achievement Students on Practice Skills in Mechanical Technology. *Journal of Physics: Conference Series*, 953(1), 1–5. <https://doi.org/10.1088/1742-6596/953/1/012104>
- Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning Journal*, 22(1), 205–222. <https://doi.org/10.24059/olj.v22i1.1092>
- Perkins, D. N., & Salomon, G. (2012). Knowledge to Go: A Motivational and Dispositional View of Transfer. *Educational Psychologist*, 47(3), 248–258. <https://doi.org/10.1080/00461520.2012.693354>
- Ramlatchan, M. (2019). Multimedia learning theory and instructional message design. *Instructional Message Design: Theory, Research, and Practice*, 1–29. [https://digitalcommons.odu.edu/instructional\\_message\\_design/](https://digitalcommons.odu.edu/instructional_message_design/)  
[https://digitalcommons.odu.edu/instructional\\_message\\_design/](https://digitalcommons.odu.edu/instructional_message_design/)
- Roach, K., Tilley, E., & Mitchell, J. (2018). How authentic does authentic learning have to be? *Higher Education Pedagogies*, 3(1), 495–509. <https://doi.org/10.1080/23752696.2018.1462099>
- Sawang, S., O'Connor, P., & Ali, M. (2017). IEngage: Using Technology to Enhance Students' Engagement in a Large Classroom. *Journal of Learning Design*, 10(1), 11. <https://doi.org/10.5204/jld.v9i3.292>
- Silalahi, A., Hutabarat, W., Tarigan, S., & Chandra, Y. (2018). Impact of Multimedia-Based Off-Line Learning on Student Motivation and Outcomes. *Asian Journal of Social Science Studies*, 3(4), 1. <https://doi.org/10.20849/ajsss.v3i4.471>
- Tan Yeen-Ju, H., & Mai, N. (2016). Leveraging Web Technologies for Collaborative Problem-Solving in an Authentic Learning Environment. *International Journal of Social Science and Humanity*, 6(7), 536–540. <https://doi.org/10.7763/ijssh.2016.v6.706>
- Wang, T. L., & Tseng, Y. K. (2018). The Comparative Effectiveness of Physical, Virtual, and Virtual-Physical Manipulatives on Third-Grade Students' Science Achievement and Conceptual Understanding of Evaporation and Condensation. *International Journal of Science and Mathematics Education*, 16(2), 203–219. <https://doi.org/10.1007/s10763-016-9774-2>