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Emulsification of Instructional Materials and Effective Teaching of Business study in Junior Secondary Schools in Port Harcourt, Rivers State

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Abstract

The study examined the emulsification of instructional materials for effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State. Three research questions and three null hypotheses were formulated and tested at 0.05 level of significance. The study adopted a correlational research design. The population of the study comprised 39 Business Study Teachers in twenty-three (23) public junior secondary schools in Port Harcourt, Rivers State, Nigeria. Due to the manageable size of the population, the entire population was studied without sampling. The instruments for data collection were researcher designed questionnaires titled "Emulsification of Instructional Materials questionnaire (EOIMQ) and Effective Teaching of Business study Questionnaire (ETOBSQ) respectively. The instruments were subjected to face and content validity by the project supervisor and two other experts, one in measurement and evaluation and the other in Business Education in the Faculty of Education, Rivers State University. A test of internal consistency was carried out using the Cronbach Alpha method to determine the reliability of the instrument. A reliability coefficient of 0.81, 0.89 and 0.88 were obtained for the three sections of the instrument respectively which shows that the instruments were reliable for the study. The researcher, with the aid of two research assistants, administered the questionnaire to the respondents. Data collected were analyzed and the hypotheses were tested using Person Product Moment Correlation statistics. The hypotheses were further subjected to t-transformation to establish the significance of the r-value at of 0.05 level of significance. The results of the data analyzed revealed that there is a high positive relationship between emulsification of instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State. The study recommended among others that teachers in secondary schools should endeavor to make effective use of print, visual, and audiovisual instructional teaching materials in all instructional delivery in the classroom, the teacher in secondary schools should be taught how to use electronic-interactive in the classroom settings such as computer and projectors.

Key Words: Emulsification, Instructional Materials, Effective Teaching, Electronic interactive, **Audiovisual**

I. INTRODUCTION

Business study is one of the curriculum subjects for junior secondary education. At this level it is called business study and specialist teachers are provided to teach this subject. Junior secondary education is the education a child receives immediately after primary education. This level of education also instills in the youth the rightful values and morals that will make them become efficient in the world of work and productive in society. It also inculcates in youths rightfully business competences and skills irrespective of their differences in endowment, religion, color, ethnic and socio-economic background (FRN, 2013). From the above objectives of junior secondary education, it demands and necessitates that effectiveness in teaching of all subjects,

especially business study through adequate utilization of resources and instructional materials are given adequate attention. Instructional materials have been observed as a powerful strategy to bring about effective teaching and learning. The importance of quality and adequate instructional materials in teaching and learning can occur through their effective utilization during classroom teaching. Emulsification in instructional material development involves combining resources, including text-based information, digital tools, audio-visual aids, and interactive activities. The concept aligns with principles of multimodal learning, which posits that incorporating various sensory inputs can aid information retention and understanding (Mayer, 2022). In the context of business study, emulsification might entail using a blend of instructional media—such as interactive videos on basic business concepts, role-playing activities for real-life applications, and gamified quizzes to reinforce retention. These elements create a "mixture" of instructional strategies that cater to diverse learning preferences and needs, thereby improving student engagement and comprehension (Clark & Lyons, 2023).

The blending of instructional materials allows educators to approach topics from multiple angles. Studies on multimodal learning suggest that varied instructional materials enhance cognitive processing by engaging different parts of the brain, ultimately helping students better understand and retain complex concepts (Mayer, 2022). For business study in junior secondary schools, which include foundational concepts in commerce, finance, and entrepreneurship, emulsification can break down these topics into manageable components. For example, students may initially struggle with the abstract concept of market demand; however, using visual representations, practical case studies, and interactive simulations could make the subject more relatable and accessible (Clark & Lyons, 2023). Moreover, emulsification promotes inclusivity by accommodating different learning styles. Students in Junior secondary schools in Port Harcourt benefits from this approach, as it supports both auditory and visual learners, as well as those who learn best through hands-on activities. The ability to mix and match instructional materials allows educators to address these diverse learning needs, which is critical in inclusive classrooms (Zhou, 2023). Despite its advantages, emulsification also presents challenges. Designing a blended approach requires careful planning and resource allocation, as well as teacher training to effectively implement diverse materials in the classroom (Brown & Green, 2023). In the context of Junior secondary schools in Port Harcourt, limited access to digital resources and high-quality materials may also

affect the feasibility of this approach. However, with support from educational stakeholders and targeted investment in resources, these obstacles can be mitigated, enabling teachers to deliver effective and engaging lessons (Brown & Green, 2023). Furthermore, the emulsification of instructional materials for teaching business study can significantly enhance educational outcomes in Junior secondary schools in Port Harcourt. By integrating various instructional materials, educators create a dynamic and inclusive learning environment that addresses the diverse needs of students and promotes deeper understanding of complex concepts in business studies. Adeogun (2015) discovered a very strong positive significant relationship between instructional resources and teaching efficiency in his view, schools endowed with more materials performed better than schools that are less endowed. This corroborated the study by Koc (2017) that private schools performed better than public schools because of the availability and adequacy of teaching and learning materials. Eya (2016) also supports that students' performance is affected by the quality and quantity of teaching and learning materials. The author noted that institutions with adequate facilities such as textbooks stand a better chance of performing well in examination than poorly equipped ones. Therefore, poor performance could be attributed to inadequate teaching and learning materials and equipment.

Instructional materials here include all the tools that the teachers can use to make the learning more interesting and memorable (Abdu-Raheem, 2014). According to Badau (2012), instructional resources are teachers' strategic factors in organizing and providing education. This is because they help to elaborate a concept that the teacher could not, without an instructional material. This allows students to learn more comfortably therefore influencing positively their academic performance. Ibeneme cited in Onajite (2016) found out that business study/education is the backbone of an industry. Those who make things happen in industry are products of business education that include managers, accountants, secretaries, marketers, and sales representatives, among others. This fact requires that business study teachers acquaint learners with up-to-date knowledge happenings in the industry for effective teaching using instructional materials. Business study is the type of education that prepares youths to acquire first-hand business information, skills and competencies that will enable them to become functional in society. Instructional materials are broadly defined to include a variety of flexible and non- flexible materials, digital materials, on-line resources, open-resources, media, manipulative and supplies. In teaching business study at

junior secondary school, such instructional materials like the computer with internet facilities, workbook, manual and electric typewriters, filling accessories, model office, filling trays, shorthand laboratory, business study textbooks, stall file cabinet, talk shop, duplicating machines, whiteboard, among others can be utilized to support the teacher's instructions (Aliyu, 2014).

More so, students are in school to learn and for instructors/teachers to share this goal means they should utilize instructional materials. From the situation of things and the observations by few researchers like Sale (2016) and Ahmed (2003) instructional materials in teaching business studying, the junior secondary schools have not been fully utilized owing to some challenges. Ahmed further attested that there is poor teachers' utilization of instruction materials in most schools. This situation is not too far from what is being experienced in Rivers State. However, the aim of emulsification is to stabilize emulsion by preventing breakdown. The breakdown of emulsion occurs due to creaming, aggregation and coalescence. Conversely, there are so many factors which determine appropriate utilization of instructional materials for teaching business study at the junior secondary schools (Saxena, 2014). Therefore, there is need for emulsification of instructional materials for effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State.

Traditional instructional approaches that rely heavily on textbooks and rote learning often fail to engage students or develop the practical skills needed in today's business environment. Research has shown that students benefit more when diverse instructional materials are emulsified to create a richer, more interactive learning environment. Print materials, when used in combination with electronic-interactive resources, audiovisual aids, visual tools, and manipulative materials, can significantly enhance student engagement and learning outcomes. However, the lack of access to these resources and a limited understanding of how to emulsify them effectively in lessons has hindered the full realization of their benefits in junior secondary schools. In addition, the shortage of teacher training on the utilization of interactive and practical instructional tools means that even when resources are available, they may not be used effectively. Teachers often lack the support and skills needed to create a balanced blend of instructional materials that can cater to different learning styles, improve knowledge retention, and foster skill application. Consequently, students may miss out on valuable experiential learning opportunities that are vital for understanding and applying business concepts. This study, therefore, seeks to address the problem of ineffective

teaching methods and the underutilization of diverse instructional materials in the teaching of business studies. By exploring the emulsification of instructional materials and assessing their impact on teaching effectiveness, this study aims to provide insights that can guide educational stakeholders, policymakers, and school administrators in improving instructional practices. Addressing this gap is essential for enhancing the quality of business education, ensuring that students in junior secondary schools in Port Harcourt gain the knowledge and skills necessary for future academic and career success in the business field.

Purpose of the Study

The purpose of this study was to examine the relationship between emulsification of instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State. Specifically, the study sought to.

1. find out the relationship between emulsification of printed instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State.
2. determine the relationship between emulsification of electronic-interactive instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State.
3. ascertain the relationship between emulsification of audiovisual instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State.

Research Questions

The following research questions were formulated to guide the study:

1. What is the relationship between emulsification of printed instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State?
2. What is the relationship between the emulsification of electronic-interactive instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State?

3. What is the relationship between emulsification of audiovisual instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State?

Hypotheses

The following null hypotheses were tested at a 0.05 significance level:

$H0_1$ There is no significant relationship between emulsification of printed instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State

$H0_2$ There is no significant relationship between the emulsification of electronic-interactive instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State

$H0_3$ There is no significant relationship between emulsification of audiovisual instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State.

II. METHODOLOGY

The study adopted correlational research design. The population of the study comprised 39 Business study teachers in the twenty-three (23) public junior secondary schools in Port Harcourt, Rivers State. The entire population of 39 Business study teachers in twenty-three (23) public junior secondary schools in Port Harcourt, Rivers State were studied, hence, there was no sample technique, due to the manageable size of the population. The instrument for data collection were two sets of self-designed questionnaires titled "Emulsification of Instructional Materials (EOIMQ) and Effective Teaching of Business study Questionnaire (ETOBSQ). A test of internal consistency was carried out using the Cronbach Alpha. The instruments were administered to ten (10) business study teachers from ten (10) Junior Secondary Schools in Obio Akpor Local Government Area of Rivers State. The process was repeated after two weeks. A reliability coefficient of 0.81, 0.89 and 0.88 were obtained for the three sections of the instrument respectively. This shows that the instruments were reliable for study. For easy comparison of variables, the data gathered from the questionnaires were analyzed using Person Product Moment correlation coefficient (PPMCC) statistics. The research questions were answered based on the direction of the correlation coefficient, (positive and high, positive but low, or negative and high or negative but low or moderate). Values of 0.1-0.4 were counted as low correlation, values of 0.5 were considered

moderate while 0.6-1.0 were considered high correlation. Similarly, the hypotheses were tested for significance of relationship at 0.05 level of significance. This was further tested by transforming the coefficient of correlation (r) to t to establish the significance or otherwise of the r value.

III. RESULTS

Research Question 1: What is the relationship between emulsification of printed instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State?

Table 1: PPMC Analysis on Relationship between Emulsification of Print Instructional Materials and Effective Teaching of Business Study in Junior Secondary Schools

Variables	N	$\sum X \sum Y$	$\sum X^2 \sum Y^2$	$\sum X \sum Y$	rcal.	Remarks
Emulsification of print instructional materials (X)	39	450.05	1142.10	1216.05	0.87	High Positive
Effective Teaching of Business Study (Y)	39	245.11	1018.04			

The analysis from Table 1 above shows that the correlation value of r is 0.87. This value is high and positive which implies that there is a significant relationship between emulsification of print instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State.

Research Question 2: What is the relationship between emulsification of Electronic-Interactive instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State?

Table 2 PPMC Analysis on Relationship between Emulsification of Electronic-Interactive Instructional Materials and Effective Teaching of Business Study in Junior Secondary Schools

Variables	N	$\sum X \sum Y$	$\sum X^2 \sum Y^2$	$\sum X \sum Y$	rcal.	Remarks
Emulsification of print instructional materials (X)	39	530.11	1142.10	1216.05	0.79	High Positive
Effective Teaching of Business Study (Y)	39	364.10	2018.04			

The analysis from Table 4.2 above shows that the correlation value of r is 0.79. This value is high and positive which implies that there is a significant relationship between the emulsification of

Electronic interactive instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State.

Research Question 3: What is the relationship between emulsification of audiovisual instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State?

Table 3: PPMC Analysis on Relationship between Emulsification of Audiovisual Instructional Materials and Effective Teaching of Business Study in Junior Secondary Schools

Variables	N	$\sum X\sum Y$	$\sum X^2\sum Y^2$	$\sum X\sum Y$	rcal.	Remarks
Emulsification of print instructional materials (X)	39	630.11	1142.10	2216.05	0.79	High Positive
Effective Teaching of Business Study (Y)	39	464.10	1018.04			

The analysis from Table 3 above shows that the correlation value of r is 0.75. This value is high and positive, which implies that there is a significant relationship between the emulsification of audiovisual instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State.

$H0_1$ There is no significant relationship between emulsification of printed instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State.

Table 4: t-test Analysis between Emulsification of Print Instructional Materials and Effective Teaching of Business Study in Junior Secondar Schools in Port Harcourt, Rivers State

Variables	N	$\sum X\sum Y$	$\sum X^2\sum Y^2$	$\sum X\sum Y$	Df	A	rcal.	rcrit.	tcal.	tcrit.	
Emulsification of print instructional materials (X)	39	450.05	1142.10	2266.05	37	0.05	0.86	0.195	15.20	1.96	Significant Reject H_o
Effective Teaching of Business Study (Y)	39	245.11	1018.04								

Table 4 above shows Pearson Correlation Summary between Emulsification of print instructional materials and effective teaching of junior secondary schools in Port Harcourt, Rivers State. The table reveals that the sum of product scores on the two variables (emulsification of print instructional materials and effective teaching of business study) is 2266.05. The correlation coefficient is 0.86 which is greater than the critical value of r (0.195) at 37 degrees of freedom under 0.05 level of significance. The null hypothesis of no significant relationship between emulsification of printed instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State, is rejected. This implies that there is a positive relationship between the emulsification of printed instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State

$H0_2$ There is no significant relationship between emulsification of electronic-interactive instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State.

Table 5: t-test Analysis between Emulsification of Electronic-interactive Instructional Materials and Effective Teaching of Business Study in Junior Secondar Schools in Port Harcourt, Rivers State

Variables	N	$\sum X \sum Y$	$\sum X^2 \sum Y^2$	$\sum X \sum Y$	df	α	rcal.	rcrit.	tcal.	tcrit.	
Emulsification of electronic-interactive instructional materials (X)	39	550.05	2142.10	3266.05	37	0.05	0.84	0.195	15.20	1.96	Significant Reject H_o
Effective Teaching of Business Study (Y)	39	345.11	2018.04								

Table 5 above shows Pearson correlation Summary between Emulsification of electronic-interactive instructional materials and effective teaching of junior secondary schools in Port Harcourt, Rivers State. The table reveals that the sum of product scores on the two variables (emulsification of electronic-interactive instructional materials and effective teaching of business study) is 3266.05. The correlation coefficient is 0.84 which is greater than the critical value of r (0.195) at 37 degrees of freedom under 0.05 level of significance. The null hypothesis of no significant relationship between emulsification of electronic interactive instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State, is rejected. This implies that there is a positive relationship between the emulsification of electronic-

interactive instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State.

$H0_3$ There is no significant relationship between emulsification of audiovisual instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State.

Table 6: t-test Analysis between Emulsification of Audiovisual Instructional Materials and Effective Teaching of Business Study in Junior Secondar Schools in Port Harcourt, Rivers State

Variables	N	$\sum X\sum Y$	$\sum X^2\sum Y^2$	$\sum X\sum Y$	Df	α	rcal.	rcrit.	tcal.	tcrit.	
Emulsification of Audiovisual Instructional Materials (X)	39	650.05	3142.10	2266.10	37	0.05	0.82	0.195	25.20	1.96	Significant Reject H_o
Effective Teaching of Business Study (Y)	39	445.11	3018.04								

Table 6 above shows Pearson correlation Summary between Emulsification of audiovisual instructional materials and effective teaching of junior secondary schools in Port Harcourt, Rivers State. The table reveals that the sum of product scores on the two variables (emulsification of audiovisual instructional materials and effective teaching of business study) is 2266.10. The correlation coefficient is 0.82 which is greater than the critical value of r (0.195) at 37 degrees of freedom under 0.05 level of significance. The null hypothesis of no significant relationship between emulsification of audiovisual instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State, is rejected. This implies that there is a positive relationship between the emulsification of audiovisual instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State.

Discussion of Findings

The findings of the study for research question one revealed that there is a high positive relationship between the emulsification of print instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State. The corresponding hypothesis indicates that there is a significant relationship between the emulsification of print instructional materials and effective teaching of business study in junior secondary schools in Port

Harcourt, Rivers State. This finding agrees with Zhou (2023) when he opined that by employing materials such as textbooks, workbooks, case studies, and infographics, educators can present complex business concepts in a manner that is both accessible and engaging for students. In a related view, Brwon (2023), observed that textbooks provide foundational knowledge in business studies, offering structured content and guided learning exercises. Workbooks complement textbooks by offering practical exercises, quizzes, and problem-solving scenarios that reinforce theoretical knowledge. When emulsified, textbooks and workbooks create a dynamic learning environment that encourages active engagement with content. Researchers argue that pairing textbooks with workbooks allows students to apply concepts directly after learning, solidifying their understanding of business principles (Huang & Lee, 2022).

The findings of the study for research question two revealed that there is a high positive relationship between the emulsification of electronic-interactive instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State. The corresponding hypothesis indicates that there is a significant relationship between the emulsification of electronic-interactive instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State. According to Clark and Lyons (2023), simulations and virtual laboratories provide interactive experiences that allow students to experiment with business concepts, such as budgeting, marketing, and project management, in a controlled environment. Furthermore, Mayer (2022) observed that in business studies, interactive videos covering topics like economic principles or business ethics can be paired with practical case studies and quizzes to reinforce learning. Research indicates that gamification can improve motivation and make challenging content more accessible, particularly for younger students' educational apps offer flexibility and portability, allowing students to learn anytime and anywhere. Apps designed for business education, such as those featuring digital flashcards, case studies, and financial calculators, provide tailored support for specific topics (Smith, 2023).

The findings of the study for research question three revealed that there is a high positive relationship between the emulsification of audiovisual instructional materials and effective teaching of business study in junior secondary schools in Port Harcourt, Rivers State. The corresponding hypothesis indicates that there is a significant relationship between the emulsification of audiovisual instructional materials and effective teaching of business study in

junior secondary schools in Port Harcourt, Rivers State. This finding is in line with the views of Amadi and Opara (2022) who opined that by integrating text-based resources with engaging multimedia elements, educators can tap into multiple sensory modalities and facilitate deeper understanding of the subject matter, particularly in the context of business studies. In a related view, Otegbulu (2021) reported that the integration of interactive simulations and video demonstrations into traditional textbook-based instruction enhanced students' comprehension of complex business concepts and promoted the development of critical thinking skills. Furthermore, the emulsification of audiovisual instructional materials has been shown to cater to the diverse learning needs and preferences of students. Nwankwo and Okafor (2020) emphasized that the inclusion of multimedia elements, such as narrated PowerPoint presentations and virtual field trips, can support students with different learning styles, including visual, auditory, and kinesthetic learners.

IV. CONCLUSION

This study examined the use of various instructional materials, electronic-interactive, audiovisual, visual, and manipulative—and their impact on enhancing the teaching of business studies in junior secondary schools in Port Harcourt, Rivers State. The findings revealed that these materials play a pivotal role in engaging students, promoting deeper understanding, and improving academic outcomes, thereby supporting the achievement of educational objectives in business studies. Print materials, such as textbooks and worksheets, provide foundational knowledge and structure, allowing students to access information at their own pace. Electronic-interactive materials, including educational software and online modules, allow for dynamic engagement, where students can actively participate in simulations, quizzes, and exercises.

Audiovisual resources, such as instructional videos and animations, proved effective in illustrating abstract concepts visually, capturing students' attention, and supporting retention. Visual materials, such as charts, graphs, and posters, complement these resources by offering quick-reference aids that help students to visualize data, trends, and key business processes, aiding memory retention and simplifying complex information. Manipulative materials, including financial models, budgeting kits, and market simulation tools, introduce hands-on learning, bridging the gap between theory and practice.

V. RECOMMENDATIONS

In view of the above the following recommendations are made:

1. The Rivers State Government, along with educational stakeholders, prioritize funding for the procurement of a wide range of instructional materials, including print, electronic-interactive, audiovisual, visual, and manipulative resources. Ensuring that schools have access to these diverse materials will enhance students' learning experiences, promote practical understanding of business studies, and support educators in implementing a more hands-on and engaging curriculum.

2. The Rivers State ministry of Education and School owners should organize regular workshops and training programmes to equip teachers with the skills and strategies necessary for effectively using diverse instructional materials. By developing teachers' proficiency with these tools, the Ministry of Education and school owners can ensure that educators are prepared to leverage print, audiovisual, and manipulative resources to enhance student engagement and learning outcomes in business studies.

3. Curriculum planners should emphasize the incorporation of hands-on, manipulative instructional materials in business studies curricula. Including practical learning opportunities in curriculum design allows students to directly engage with business concepts through simulation kits, budgeting tools, and models. This experiential approach not only aids comprehension but also prepares students for real-world applications of business principles.

References

Abdu-Raheem, B. 0. (2014). Availability, adequacy and utilization of social studies instructional materials in Ekiti State Secondary Schools. *Journal of Current Discourse and Research*. 3(9), 242-255.

Adeogun, A. A. (2015). The principal and the financial management of public secondary schools in Osun State. *Journal of Educational System and Development*, 5(1), 1 - 10.

Adewale, B. (2023). *Challenges and opportunities in resource-limited educational environments*. African Journal of Education.

Amadi, E. C., & Opara, J. A. (2022). Instructional materials and students' academic performance in business studies in junior secondary schools in Port Harcourt, Rivers State, Rivers State. International *Journal of Innovative Research and Development, 11(1), 25-32.*

Anyakoha, E.U. (2012). Development and utilization if facilities for home economics education programme in Nigerian schools and colleges for manpower development. *Nigeria Vocational Association Journal* 2(2) 16-24.

Bajah, S.T. (2014). Improvisation in Agricultural Science. *Journal of Science Teachers Association of Nigeria, 16(2), 100-105.*

Brown, A., & Green, T. D. (2023). Instructional design and learning strategies. Routledge.

Clark, R. C., & Lyons, C. (2023). Graphics for learning: Proven guidelines for planning, designing, and evaluating visuals in training materials. John Wiley & Sons.

Duru, C. E., & Okafor, G. O. (2018). Challenges of integrating multimedia instructional materials in teaching business studies in junior secondary schools in Enugu State, Nigeria. Nigerian *Journal of Business Education, 5(2), 172-182.*

Eya, P. (2016). Role of instructional materials in improving qualitative Education in Nigeria. *Ebonyi State University Journal of Education* 4(1), 7-92.

Huang, L., & Lee, S. (2022). *Hands-on learning in business education*. *Journal of Educational Psychology.*

Koç, M. (2017). Implications of learning theories for effective technology integration and preservice teacher training: A critical literature review. *Journal of Science Education*, 2. (*1), 1-16.*

Mayer, R. E. (2022). *Multimedia learning*. Cambridge University Press.

Nwankwo, A. A., & Okafor, G. O. (2020). Availability and utilization of multimedia resources for teaching business studies in junior secondary schools in Anambra State, Nigeria. *African Journal of Teacher Education, 9(1), 1-13.*

Otugulu G. (2021). The training of NCE Mathematics Teachers. A Focus on instructional Materials. ABACUS, *Journal of Mathematics Association of Nigeria, 22(1), 98-105*.

Smith, J. (2023). Teacher readiness for the integration of hands-on learning tools in business studies. *Journal of Educational Psychology, 14(2), 203-220.*

Wang, X., & Li, M. (2022). Vygotsky's theory in practice: Peer collaboration and interactive materials in secondary education. *Journal of Interactive Learning Technologies, 9(4), 287-300.*

Zhou, Y. (2023). *The science of emulsification and its applications in diverse fields*. Academic Press.