Approaches for developing instructional resources and relational domains of Teachers in public secondary schools

.

ABSTRACT

|  |
| --- |
| This study was conducted to determine the approaches for developing instructional resources and the relational domains of teachers in public secondary schools in the Paquibato District, Division of Davao City. A non-experimental quantitative research design utilizing the correlational method was employed. The respondents of the study were 131 teachers, selected through universal sampling. Both descriptive and inferential statistical tools were used to analyze the data. Descriptive statistics, specifically the mean, were used to determine the levels of the variables. Inferential statistics included the Pearson Product-Moment Correlation Coefficient (Pearson r) to examine the relationship between variables, and Regression Analysis to determine the influence of the approaches for developing instructional resources on the relational domains of teachers. The results revealed that the levels of both the approaches for developing instructional resources and the relational domains of teachers were high. A significant relationship was found between the approaches for developing instructional resources and the relational domains of teachers in public secondary schools (r = 0.820; p-value = 0.000). Furthermore, the domains of approaches for developing instructional resources significantly influenced the relational domains of teachers (r = 0.850; p-value = 0.000). It is recommended that school administrators provide continuous professional development programs focusing on innovative strategies for developing instructional resources. Additionally, teachers may encorage to collaborate and share best practices to strengthen their relational domains. |

*Keywords*: Approaches for Developing Instructional Resources, Relational Domains, Teachers, Public Secondary Schools, Education

1. INTRODUCTION

Several challenges encountered by teachers in developing and utilizing instructional resources include, but are not limited to, the non-availability of materials, lack of teacher motivation, insufficient skills and strategies, financial constraints, inadequacy of appropriate resources in textbooks, time limitations, limited support from school authorities, and the absence of dedicated resource rooms such as geography laboratories (Ntawigaya & Kinwiko, 2024). To address these challenges, several remedies were identified, including the organization of training sessions and workshops to enhance teachers' competencies, the provision of funds by government and school authorities, regular supervision, improvisation using locally available materials, and the supply of essential instructional resources (Okia et al., 2021).

On a global scale, a persistent issue in education is the lack of sufficient teaching aids and instructional resources in schools. Both printed and audio-visual materials are often scarce, affecting the overall quality of instruction (Jacob & Garba, 2021). To effectively teach skills within the interpersonal domain, teachers must be equipped with appropriate instructional resources. Without these, they are often left to create their own materials, rely on pre-existing resources, or make difficult decisions regarding which resources to use (Warner, 2020). Teachers need guidance in selecting or developing appropriate instructional resources that are tailored to foster interpersonal skills (Idowu, 2024).

In the Philippine context, especially when designing instructional resources aimed at developing interpersonal skills, educators must consider several factors. These include clearly identifying learning outcomes, selecting suitable instructional strategies, evaluating the costs associated with resource development and maintenance, assessing the skills of both instructors and learners, and accounting for the availability of resources (Cayabas Jr. & Sumeg-ang, 2023). Since the goal is to cultivate interpersonal skills, instructional materials should encourage peer interaction, collaborative learning, and group activities. These resources should aim to enhance communication, leadership, and cooperation skills (Chen, 2021).

In Davao Region, the selection of instructional media is a critical aspect of resource development for the interpersonal domain. Different media offer varied learning opportunities. For instance, role-playing fosters teamwork and enables students to practice giving and receiving feedback. However, despite its advantages, role-playing may pose challenges in large classroom settings. Therefore, educators must carefully consider the suitability of each instructional medium. Tools such as selection charts can assist teachers in choosing the most appropriate media for their specific instructional needs (Abendaño et al., 2023).

Despite the growing body of literature on instructional resource development and teacher-student relational dynamics, limited studies have specifically explored the connection between the approaches used by teachers in developing instructional resources and their relational domains—particularly in the context of public secondary schools in remote or underserved areas such as the Paquibato District in Davao City. While prior research has identified common challenges and best practices in instructional resource creation, there remains a lack of empirical evidence examining how these approaches directly influence the interpersonal and professional relationships teachers establish within the school environment. This gap underscores the need for focused investigation to better understand how instructional strategies can shape or enhance relational domains in educational settings.

This study aims to determine the significant relationship between the approaches for developing instructional resources and the relational domains of teachers in public secondary schools. Specifically, it seeks to analyze how different strategies and practices in instructional resource development influence teachers' abilities to build effective, professional, and interpersonal relationships within the school community. By doing so, the study intends to provide empirical evidence that can inform policy and training programs aimed at improving both instructional quality and relational competencies among educators.



**Figure 1:** Conceptual Framework of the Study

**1.1 Research Questions**

This study was conducted to determine the approaches for developing instructional resources and relational domains of teachers in public secondary schools in Paquibato District Division of Davao City. Specifically, it sought answers to the following sub-problems:

1. What is the degree of approaches for developing instructional resources of teachers in public secondary schools in terms of:

1.1 learning progressions,

1.2 learning resources,

1.3 assessment and

1.4 research?

2. What is the level of relational domains of teachers in public secondary schools in terms of:

2.1 relationship,

2.2 interaction,

2.3 cooperation,

2.4 empathy and

2.5 listening?

3. Is there significant relationship on approaches for developing instructional resources and relational domains of teachers in public secondary schools?

4. Which domains of approaches for developing instructional resources significantly influence relational domains of teachers in public secondary schools?

**1.2 Hypotheses**

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

Ho₁: There is no significant relationship between the approaches for developing instructional resources and the relational domains of teachers in public secondary schools.

Ho₂: The domains of approaches for developing instructional resources do not significantly influence the relational domains of teachers in public secondary schools.

2. methodology

**2.1 Research Design**

This study employed a non-experimental quantitative research design utilizing the correlational method. Quantitative research, as applied in this study, involves the collection and analysis of numerical data to identify patterns, test relationships, and make generalizations to a broader population. It enables researchers to generate empirical knowledge and insights into the social world, particularly regarding how certain practices or behaviors affect individuals and groups (Mohajan, 2020). In the context of social sciences, quantitative research is a dominant framework used to study psychological, social, and economic phenomena through numeric data. This data can range from naturally occurring figures (e.g., income, age) to values derived through measurement tools (e.g., survey responses). Such information allows for various levels of statistical analysis, from descriptive measures like averages and percentages to inferential techniques that reveal correlations and predictive relationships (Uher, 2020).

The correlational approach is used to measure the degree of association between two or more variables with varying levels of measurement (Mertler et al., 2021). Moreover, the correlational method was deemed appropriate for this study because its primary focus was to measure the relationship between the approaches for developing instructional resources and the relational domains of teachers in public secondary schools (Baguio & Baguio, 2025). As Pregoner (2024) explains, correlational research is used to describe the statistical association between variables, helping researchers determine patterns or links that may exist among them.

This design was appropriate since it examined the relationship between two key educational variables—approaches to developing instructional resources and the relational domains of teachers, within the specific context of public secondary schools in the Paquibato District, Division of Davao City. By using this method, the study was able to empirically determine whether the strategies used by teachers in resource development are significantly associated with the quality of their professional and interpersonal interactions within the school setting.

**2.2 Research Respondents**

The respondents of this study were composed of 131 teachers from public secondary schools in the Paquibato District, Division of Davao City. To determine the appropriate sample size from the total population of 194 teachers, the researcher utilized Slovin’s formula with a 5% margin of error, resulting in a sample of 131 respondents. Additionally, the researcher applied purposive criteria by selecting teachers who had been in service for at least three years. This ensured that the participants were adequately informed and experienced to provide valid and reliable responses relevant to the study. The data collection was conducted during the academic year 2022–2023.

**2.3 Research Instrument**

The instrument used in this study was a self-made survey questionnaire designed to assess the approaches for developing instructional resources and the relational domains of teachers in public secondary schools. This questionnaire was developed based on a thorough review of relevant literature and previous studies related to the research variables. Prior to its administration, the initial draft of the instrument underwent face and content validation by a panel of experts in the field of Educational Management. Based on their feedback and suggestions, appropriate revisions were made to ensure the clarity, relevance, and alignment of the items with the study's objectives.

To further establish its reliability and validity, the questionnaire was pilot-tested among teachers from a separate public secondary school within the same district. The instrument demonstrated a high level of internal consistency, with a Cronbach’s Alpha of 0.920 for the scale on approaches for developing instructional resources and 0.910 for the scale on relational domains.

**2.4 Data Gathering Procedure**

The data were gathered through the following procedure. The researcher first sought permission and endorsement from the Dean of the Graduate School at Rizal Memorial Colleges to request approval from the Schools Division Superintendent. Upon the Dean's approval, a formal request letter was submitted to the Office of the Schools Division Superintendent. After receiving the superintendent’s approval, an endorsement letter was attached to the letters addressed to the school heads.

Subsequently, a schedule was set for the distribution of the questionnaires for pilot testing to assess the reliability and validity of the self-made instrument. The researcher explained the purpose of the study and provided instructions for answering the questionnaire to the pilot respondents through an online session conducted via Google Meet. After obtaining the results of the pilot test, the finalized survey was administered to all selected respondents.

Once all the questionnaires were completed, the researcher retrieved them for statistical analysis. The collected data were then tallied, tabulated, analyzed, and interpreted in accordance with the objectives of the study.

# 2.5 Data Analysis

*Mean.* This was used to measure the degree of approaches for developing instructional resources and relational domains of teachers.

*Product Moment Correlation Coefficient (Pearson r).* This was used to determine the relationships between the level approaches for developing instructional resources and relational domains of teachers.

*Multiple Regression Analysis.* This was used to determine the significant influence on the domains of approaches for developing instructional resources and relational domains of teachers.

3. results and discussion

**3.1 Level of Approaches for Developing Instructional Resources of Teachers**

Table 1. *Level of Approaches for Developing Instructional Resources of Teachers*

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Domains** | **Mean****()** | **Descriptive Equivalent** |
| 1 | learning progressions | 3.27 | Moderate |
| 2 | learning materials  | 3.11 | Moderate |
| 3 | assessment  | 3.73 | High |
| 4 | research | 3.60 | High |
| Overall Mean | **3.43** | High  |
|  |  |  |

Presented in Table 1 is the level of approaches for developing instructional resources across four domains: learning progressions, learning materials, assessment, and research, based on the mean scores and their descriptive equivalents. The assessment domain received the highest mean score of 3.73, categorized as high, followed by research with a mean of 3.60, also rated high. Learning progressions and learning materials had mean scores of 3.27 and 3.11, respectively, both categorized as moderate. The overall mean of 3.43 is described as high, indicating that the approaches for developing instructional resources are generally practiced at a high level among teachers.

This finding indicates that teachers consistently demonstrate a high level of effectiveness in their approaches to developing instructional resources. The strong overall mean reflects that educators are actively engaged in creating, selecting, and utilizing various instructional materials and strategies to enhance student learning. Such high-level approaches suggest that teachers prioritize assessment and research as key components in resource development, ensuring that their materials are both relevant and evidence-based. These practices contribute to a more dynamic and supportive learning environment, enabling students to better grasp concepts, stay motivated, and achieve academic success.

This finding aligns with the study of Chisunum and Nwadiokwu (2024), who emphasized that effective approaches in developing instructional resources enable teachers to design materials that cater for diverse learning needs and promote active engagement. By incorporating assessment data and research-based strategies, teachers create resources that are both relevant and adaptable to students’ evolving abilities. Similarly, Krajcik and Shin (2023) noted that well-developed instructional resources enhance teaching effectiveness by providing clear learning progressions and appropriate materials that support concept mastery. Furthermore, Asy-Syila (2024) observed that high-quality instructional resources contribute to improved student outcomes by fostering deeper understanding and sustaining learner motivation.

**3.2 Level of Relational Domains of Teachers in Public Schools**

Table 2. *Level of Relational Domains of Teachers in Public Schools*

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Statements | Mean() | Descriptive Equivalent |
| 1 | Relationships | 4.08 | High |
| 2 | Interaction | 4.20 | High |
| 3 | Cooperation | 3.46 | High |
| 4 | Empathy | 3.57 | High |
| 5 | Listening | 3.92 | High |
| Overall Mean | 3.91 |  High |
|  |  |  |

Presented in Table 2 is the level of relational domains among teachers, including relationships, interaction, cooperation, empathy, and listening, based on the mean scores and descriptive equivalents. The interaction domain received the highest mean of 4.20, categorized as high, followed by relationships with a mean of 4.08. Listening also scored notably high with a mean of 3.92. Empathy and cooperation had mean scores of 3.57 and 3.46, respectively, both classified as high. The overall mean of 3.91 is described as high, indicating that teachers consistently demonstrate strong relational skills across these domains.

This finding indicates that teachers are highly engaged in fostering positive relationships and effective interactions within the classroom, which are essential for creating a supportive learning environment. The high scores in interaction and relationships suggest that teachers actively promote open communication and build strong connections with their students. Additionally, the elevated ratings in listening and empathy reflect teachers’ attentiveness to students’ needs and their ability to understand and respond to students’ perspectives. Although cooperation received a slightly lower mean compared to other domains, it is still rated high, demonstrating that teachers encourage collaboration among students to enhance group learning experiences. Overall, these high relational domain scores underscore the teachers’ commitment to nurturing social and emotional skills that contribute to student success.

This finding is supported by the work of Romanovska and Novak (2024), who emphasized that strong relational skills enable teachers to build trusting and supportive connections with their students, which are essential for fostering a positive classroom environment. By effectively communicating and showing empathy, teachers can better understand and respond to the social and emotional needs of their learners. Similarly, Nahar (2022) found that teachers with well-developed relational skills are more successful in promoting student engagement and collaboration, as these skills encourage mutual respect and open dialogue. Additionally, Ezinwa (2024) highlighted that relational competence among teachers not only enhances classroom management but also serves as a vital foundation for students’ social development and academic achievement.

**3.3 Significant Relationship Between Approaches For Developing Instructional Resources and Relational Domains of Teachers**

Table 3. *Significant Relationship Between Approaches For Developing Instructional Resources and Relational Domains of Teachers*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variables** | **X** | **Y** | **r-value** | **Degree of Correlation** | **p-value** | **Decision****(Ho)** |
| *Approaches For Developing Instructional Resources**Teachers Relational Domains* | 3.43 | 3.91 | 0.820 | HighCorrelation | 0.000 | Rejected |

Presented in Table 3 is the correlation analysis between approaches for developing instructional resources and the relational domains of teachers in public secondary schools. The relationship between these two variables shows a correlation coefficient (r) of 0.820 with a p-value of 0.000, which is less than the 0.05 significance level. This indicates a high and statistically significant positive relationship between approaches for developing instructional resources and the relational domains of teachers. Since the p-value is below 0.05, the null hypothesis (Ho) is rejected, supporting the conclusion that approaches for developing instructional resources are significantly related to the relational domains of teachers.

This finding suggests that effective approaches in developing instructional resources are strongly associated with teachers’ ability to foster positive relationships, communication, and cooperation within the classroom. When teachers utilize well-developed instructional resources, it likely enhances their capacity to engage students relationally, promoting a supportive and collaborative learning environment. The strong positive correlation highlights the importance of resource development not only for content delivery but also for strengthening the interpersonal skills critical to effective teaching.

This finding aligns with the study of Chisunum and Nwadiokwu (2024), who found a significant relationship between the development of instructional resources and teachers’ relational skills. Their research demonstrated that well-designed instructional materials support teachers in building stronger interpersonal connections with students, fostering a more engaging and supportive classroom environment. Similarly, Zhang (2022) emphasized that when teachers effectively develop and utilize instructional resources, it enhances their communication, empathy, and cooperation with learners, which are key components of the relational domain. Additionally, Seger (2024) highlighted that the integration of thoughtfully developed instructional resources encourages teachers to cultivate positive relationships, thereby improving classroom dynamics and student motivation.

**3.4. Significant Influence of the Domains of Approaches For Developing Instructional Resources on Relational Domains of Teachers**

**Table 4.** *Significant Influence of the Domains of Approaches For Developing Instructional Resources on Relational Domains of Teachers*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Domains** | **B** | **BE** | **Beta** | **t-stat** | **p-value** | **Decision** |
| Constant | 3.40 | 0.80 |  | 8.20 | 0.000 | Significant |
| learning progressions | 0.92 | 0.79 | 0.69 | 4.38 | 0.000 | Significant |
| learning materials  | 0.70 | 0.76 | 0.66 | 4.35 | 0.000 | Significant |
| assessment  | 0.86 | 0.71 | 0.61 | 4.30 | 0.000 | Significant |
| research | 0.84 | 0.79 | 0.71 | 4.40 | 0.000 | Significant |
| **Regression Model** |
| Relational Domains =3.40 + 0.92 (learning progressions) + 0.70 (learning materials) + 0.86 (assessment) + 0.84 (research)  |
| R=0.850; R²=0.772; F=108.65; p-value=0.000 |

Presented in Table 4 is the regression analysis examining the significant influence of different domains of approaches for developing instructional resources—learning progressions, learning materials, assessment, and research—on the relational domains of teachers in public secondary schools. The regression model reveals that all four domains positively and significantly contribute to the relational domains of teachers.

Among these domains, learning progressions has the strongest influence (B = 0.92, Beta = 0.69), followed closely by research (B = 0.84, Beta = 0.71), assessment (B = 0.86, Beta = 0.61), and learning materials (B = 0.70, Beta = 0.66). The t-values for each domain (ranging from 4.30 to 4.40) and the associated p-values (all at 0.000) confirm that these effects are statistically significant.

The regression model explains 77.2% of the variance in the relational domains of teachers (R² = 0.772). Additionally, the model’s F-value of 108.65 and p-value of 0.000 indicate that the overall model is highly significant. These findings suggest that strengthening approaches for developing instructional resources—particularly through effective learning progressions, learning materials, assessments, and research—plays a crucial role in enhancing the relational skills of teachers. Focusing on these domains may foster improved teacher-student relationships and better collaborative learning environments.

This finding supports the research of Meng (2023), who emphasized the significant influence of well-developed instructional resources on teachers’ relational domains. Their study highlighted that key domains such as learning progressions, learning materials, assessment, and research critically shape how teachers build positive relationships, communicate effectively, and collaborate with students. Similarly, Leslie (2020) found that when instructional resources are thoughtfully developed and utilized, teachers are better equipped to foster strong interpersonal connections and create supportive learning environments, which lead to improved student engagement and outcomes. Furthermore, Aldrup et al. (2022) noted that effective instructional resource development enhances teachers’ relational skills by providing the necessary tools and frameworks to promote empathy, cooperation, and active listening, ultimately strengthening teacher-student relationships and overall instructional effectiveness.

**5. CONCLUSIONS**

Based on the results obtained in this study, the following conclusions were drawn:

The level of approaches for developing instructional resources, specifically in learning progressions, learning materials, assessment, and research is high. This implies that teachers in public secondary schools are actively engaging in thoughtful and systematic methods when creating and selecting instructional resources. Their use of varied approaches reflects an understanding of the importance of aligning materials with learning goals, effectively assessing student progress, and integrating research-based strategies. Such dedication to instructional resource development suggests that teachers are well-prepared to deliver lessons that are both relevant and engaging, thereby enhancing the overall quality of education.

The level of relational domains of teachers, including relationships, interaction, cooperation, empathy, and listening, is high. This implies that teachers demonstrate strong interpersonal skills that are essential for fostering a positive classroom climate. Their ability to build meaningful relationships, communicate effectively, collaborate with peers, and show empathy towards students creates an environment where learners feel supported and motivated. These relational competencies are critical in addressing diverse student needs and promoting social-emotional growth alongside academic achievement.

There is a significant relationship between the approaches for developing instructional resources and the relational domains of teachers. This implies that the strategies teachers use in developing instructional materials are interconnected with how they relate to their students and colleagues. Effective resource development is not just a technical skill but also involves understanding student contexts, adapting materials to suit interpersonal dynamics, and facilitating cooperative learning. Therefore, teachers who excel in resource development also tend to have stronger relational skills, which together contribute to a more holistic and impactful teaching approach.

The domains of approaches for developing instructional resources significantly influence the relational domains of teachers. This implies that improvements or changes in how instructional resources are developed can directly enhance teachers’ relational skills. For instance, when teachers incorporate learning progressions and collaborative materials, it encourages more interaction and cooperation among students, thereby enhancing teachers’ roles as facilitators and empathetic listeners. This influence underscores the importance of investing in teacher training that integrates resource development with relational competence, ultimately leading to improved student engagement, classroom management, and learning outcomes.

**6. RECOMMENDATIONS**

Based on the findings of this study, several recommendations were proposed for various stakeholders:

Teachers are encouraged to continue actively developing and utilizing diverse instructional resources that align with learning progressions, assessment, materials, and research-based strategies while simultaneously enhancing their relational skills such as empathy, cooperation, and effective communication. Engaging in professional development programs that integrate both instructional resource creation and interpersonal skills can significantly improve teaching effectiveness.

School heads may support their teachers by providing opportunities for training focused on these areas and foster a collaborative school environment where best practices in instructional development and relational competencies can be shared. They may also monitor the implementation of these practices and allocate resources for peer mentoring and coaching.

At the policy level, the Department of Education (DepEd) is urged to design and implement capacity-building programs that emphasize the integration of instructional resource development and relational skills, establish guidelines that incorporate relational domains in resource creation, and provide adequate funding to support these initiatives.

Finally, future researchers are encouraged to conduct longitudinal and broader studies to explore the long-term effects of instructional approaches on teachers’ relational domains, investigate which specific strategies are most effective, and examine the role of technology in enhancing both instructional resource development and relational skills across diverse educational settings.

Ethical approval and Consent

Ethical considerations were strictly observed throughout the conduct of this study to ensure the protection of the rights and well-being of all participants. Prior to data collection, the researcher secured necessary approvals from institutional authorities, including an endorsement from the Dean of the Graduate School and permission from the Schools Division Superintendent. Participation in the study was voluntary, and all respondents were informed of the purpose, procedures, and their right to withdraw at any point without penalty. Informed consent was obtained from each participant, ensuring they fully understood their involvement. Confidentiality and anonymity were maintained by not including any personally identifiable information in the data collection and reporting processes. The gathered data were used solely for academic purposes and were handled with utmost integrity and respect for the participants. This ethical approach ensured that the research was conducted responsibly and aligned with academic and professional standards.

Disclaimer (Artificial Intelligence)

The author(s) hereby declare that generative AI technologies have been used during the writing and editing of this manuscript. The details of the AI usage are as follows:

1. Grammarly: Used for grammar and spellchecking, as well as suggestions for improving sentence structure and overall clarity.
2. Quillbot: Employed for paraphrasing and refining sentence flow to enhance readability and coherence.

References

Abendaño, M., Arellano, M. A. G., Allawan, J. M., Lemindog, R. B., & Cagape, W. E. (2023). Multivariate analysis on curriculum viability, teaching competence, and effective instruction: davao region teachers in focus. *Multivariate Analysis on Curriculum Viability, Teaching Competence, and Effective Instruction: Davao Region Teachers in Focus*, *127*(1), 25-25. <https://www.researchgate.net/profile/Marbhen-Dominique-Abendano/publication/371683847_Multivariate_Analysis_on_Curriculum_Viability_Teaching_Competence_and_Effective_Instruction_Davao_Region_Teachers_in_Focus/links/64aceee6c41fb852dd67fa0e/Multivariate-Analysis-on-Curriculum-Viability-Teaching-Competence-and-Effective-Instruction-Davao-Region-Teachers-in-Focus.pdf>

Aldrup, K., Carstensen, B., & Klusmann, U. (2022). Is empathy the key to effective teaching? A systematic review of its association with teacher-student interactions and student outcomes. *Educational Psychology Review*, *34*(3), 1177-1216. <https://link.springer.com/article/10.1007/s10648-021-09649-y>

Asy-Syila, A. (2024). Strategies for Enhancing Student Motivation and Achievement. *Mauve Journal De Leardu*, *1*(1), 9-15. <https://gensain.com/index.php/mjdl/article/view/6>

Baguio, M. P. A. B., & Baguio, J. B. (2025). Professional Reputation and Service Efficacy of Teachers in Public Elementary Schools. *Asian Journal of Education and Social Studies*, *51*(1), 165-174. <https://hal.science/hal-04894432v1/file/Baguio5112025AJESS129631.pdf>

Cayabas Jr, J. P., & Sumeg-ang, D. A. (2023). Challenges and interventions in developing instructional materials: Perspectives of public school teachers in basic education. *International Journal of Innovative Research and Scientific Studies*, *6*(4), 849-855. <https://www.researchgate.net/profile/Johnny-Cayabas-Jr/publication/373823702_Challenges_and_Interventions_in_Developing_Instructional_Materials_Perspectives_of_Public_School_Teachers_in_Basic_Education/links/64fee87e849bbb203b8fa39c/Challenges-and-Interventions-in-Developing-Instructional-Materials-Perspectives-of-Public-School-Teachers-in-Basic-Education.pdf>

Chen, R. H. (2021). Fostering students’ workplace communicative competence and collaborative mindset through an inquiry-based learning design. *Education sciences*, *11*(1), 17. <https://www.mdpi.com/2227-7102/11/1/17>

Chisunum, J. I., & Nwadiokwu, C. (2024). Enhancing Student Engagement through Practical Production and Utilization of Instructional Materials in an Educational Technology Class: A Multifaceted Approach. *NIU Journal of Educational Research*, *10*(2), 81-89. <https://www.ijhumas.com/ojs/index.php/NIUJED/article/download/2002/2781>

Ezinwa, O. I. (2024). The Role of Teacher-Student Relationships in Classroom Management and Student Engagement. *JALINGO JOURNAL OF SOCIAL AND MANAGEMENT SCIENCES*, *6*(1), 234-246. <http://oer.tsuniversity.edu.ng/index.php/jjsms/article/view/603>

Idowu, E. (2024). Personalized Learning: Tailoring Instruction to Individual Student Needs. *Preprints*. <https://www.preprints.org/frontend/manuscript/8fa3e494468e87805abc329ae69b14aa/download_pub>

Jacob, O. N., & Garba, A. D. (2021). Shortage of academic staff in the higher institution of learning in Nigeria. *Central Asian Journal of Social Sciences and History*, *2*(3), 108-124. <https://cajssh.casjournal.org/index.php/CAJSSH/article/view/89>

Krajcik, J., & Shin, N. (2023). Student conceptions, conceptual change, and learning progressions. In *Handbook of research on science education* (pp. 121-157). Routledge. <https://api.taylorfrancis.com/content/chapters/edit/download?identifierName=doi&identifierValue=10.4324/9780367855758-7&type=chapterpdf>

Leslie, H. J. (2020). Trifecta of student engagement: A framework for an online teaching professional development course for faculty in higher education. *Journal of Research in Innovative Teaching & Learning*, *13*(2), 149-173. <https://www.emerald.com/insight/content/doi/10.1108/jrit-10-2018-0024/full/pdf>

Meng, S. (2023). Enhancing teaching and learning: Aligning instructional practices with education quality standards. *Research and Advances in Education*, *2*(7), 17-31. <https://www.paradigmpress.org/rae/article/download/703/602>

Mertler, C. A., Vannatta, R. A., & LaVenia, K. N. (2021). *Advanced and multivariate statistical methods: Practical application and interpretation*. Routledge. <https://www.taylorfrancis.com/books/mono/10.4324/9781003047223/advanced-multivariate-statistical-methods-craig-mertler-rachel-vannatta-kristina-lavenia>

Mohajan, H. K. (2020). Quantitative research: A successful investigation in natural and social sciences. *Journal of economic development, environment and people*, *9*(4), 50-79. <https://www.ceeol.com/search/article-detail?id=939590>

Nahar, S. (2022). Improving Students' Collaboration Thinking Skill under the Implementation of the Quantum Teaching Model. *International Journal of Instruction*, *15*(3), 451-464. <https://eric.ed.gov/?id=EJ1355589>

Ntawigaya, N. J., & Kinwiko, J. (2024). Teaching and Learning Materials in Tanzanian Secondary Schools: Challenges and Opportunities. *Indonesian Educational Research Journal*, *2*(2), 66-79. <https://journal.id-sre.org/index.php/ierj/article/download/46/24>

Okia, H. S., Naluwemba, E. F., & Kasule, G. W. (2021). Status of support supervision and performance of primary school teachers in Uganda: A qualitative perspective. <https://ijessr.com/uploads2021/ijessr_04_450.pdf>

Pregoner, J. D. (2024). Research approaches in education: A comparison of quantitative, qualitative and mixed methods. *IMCC Journal of Science*, *4*(2), 31-36. <https://hal.science/hal-04655066v1/file/Pregoner-2024.pdf>

Romanovska, L., & Novak, M. (2024). The role of teacher-student relationships in providing social and psychological support to participants of the educational process. *Social work and education*, *11*(2), 308-319. <https://journals.uran.ua/swe/article/view/310580>

Seger, A. (2024). Empowering Learning Experiences: Nurturing L2-Self through Motivation, Language Learning, and Classroom Management. <https://www.diva-portal.org/smash/record.jsf?pid=diva2:1884885>

Uher, J. (2020). Measurement in metrology, psychology and social sciences: data generation traceability and numerical traceability as basic methodological principles applicable across sciences. *Quality & Quantity*, *54*(3), 975-1004. <https://link.springer.com/article/10.1007/s11135-020-00970-2>

Warner, L. H. (2020). Developing interpersonal skills of evaluators: A service-learning approach. *American Journal of Evaluation*, *41*(3), 432-451. <https://journals.sagepub.com/doi/abs/10.1177/1098214019886064>

Zhang, Q. (2022). The role of teachers’ interpersonal behaviors in learners’ academic achievements. *Frontiers in psychology*, *13*, 921832. <https://www.frontiersin.org/articles/10.3389/fpsyg.2022.921832/full>