



Analysis of Effectiveness of Collaborative Pedagogy Practices

Bisna Acharya, PhD

Faculty Member of Education

Tribhuvan University, Mahendra Ratna Campus, Kathmandu, Nepal

acharyabisna@gmail.com

<http://orcid.org/0000-0001-8457-1043>

Surya Sigdel*

Assistant Professor of Education

Tribhuvan University, Mahendra Ratna Campus, Kathmandu, Nepal

suryasigdel41@gmail.com

<http://orcid.org/0009-0007-1807-2191>

Omkar Poudel

Assistant Professor of Economics

Birendra Multiple Campus, Tribhuvan University, Chitwan, Nepal

omkar.poudel@bimc.tu.edu.np

<http://orcid.org/0009-0008-7873-0237>

Corresponding Author*

Received: July 03, 2024; Revised & Accepted: September 27, 2024

Copyright: Author(s), (2024)



This work is licensed under a [Creative Commons Attribution-Non Commercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/).

Abstract

This study analyzes the effectiveness of collaborative teaching and learning strategies to enhance student's educational experience and learning results. Collaborative pedagogy converts the traditional teacher-centered paradigm into a more participatory, student-centered approach, promoting active participation via group work, debates, and collective problem-solving. This study examines existing literature, case studies, and empirical evidence to evaluate the impact of collaborative approaches on student accomplishment, motivation, and the development of fundamental abilities such as critical thinking, communication, and cooperation. The study found that collaborative teaching and learning approaches are essential for strengthening comprehension, increasing information retention, and cultivating superior



social skills. The benefits of peer learning, active engagement, and instructor facilitation are highlighted in cultivating a dynamic classroom atmosphere. The study underscores other problems linked to implementing collaborative pedagogy, including resource constraints, dominant teacher-centered cultural norms, and substantial class sizes, especially in poor countries such as Nepal. The acceptance of collaborative pedagogy in Nepal is increasing owing to continuing educational reforms and curricular modifications; nonetheless, many obstacles hinder its extensive implementation. The document emphasizes the need for augmented teacher training, greater infrastructural support, and customized teaching methodologies to use the benefits of collaborative learning properly. The results demonstrate that, when properly implemented, collaborative teaching-learning methodology may substantially improve educational quality and prepare students to confront real-world difficulties.

Keywords: Collaboration teaching-learning, Student-centered learning, Educational reform, Educational effectiveness, Nepal

Introduction

The collaborative pedagogy denotes an instructional approach where educators and learners actively interact, collaborate, and construct new knowledge. This approach involves students working together, usually in small groups, to tackle problems, complete assignments, or engage in discussions. The educator offers guidance and support during the entire process. As the role of the educator evolves from being the sole provider of information to that of a facilitator or guide, there is an expectation for the educator to foster student engagement, encourage peer instruction, and promote collective responsibility for learning.

Collaborative teaching-learning aims to create a more participative, inclusive, and engaging classroom. It stresses active engagement, accountability, and cooperative learning and fosters classroom community, critical thinking, and social and communication skills. Teachers no longer convey all information; pupils actively learn. Students may direct their learning, increasing participation. Students learn group projects, conversations, and analytical problem-solving. Encourages diverse ideas and experiences to improve understanding. Educators collaborate to ensure topic comprehension. Divide the class for specific training or use their expertise to enhance the subject. Students apply theory to practice via collaborative projects. Students from different fields must work together to assimilate knowledge. Feedback from students changes teachers' methods.

Davidson et al. (2014) defined collaborative learning as a dynamic, active learning strategy encompassing cooperative, team-based, group, and peer learning. Teachers or more knowledgeable peers supervise these activities and give educational support. Community learning is possible for many organizations. These groups can range from pairs and triads to the entire class or cohort. Collaborative learning may boost student engagement by including social components of active learning. Using in-person or synchronous class time for



collaborative learning in mixed and online learning creates a successful 'flipped classroom' approach (Lage & Platt, 2000).

Johnson et al. (2006) meta-analyses showed that collaborative learning improves learning outcomes, student self-esteem, and learning attitudes. Springer et al. (1999) found comparable results and a favorable effect on student retention in a STEM meta-analysis. Kuh et al. (2007) showed that collaborative learning improves student engagement and learning results. Vygotsky and Cole (1978) and McMahon (1997) define social constructivism as student groups sharing experiences, ideas, and insights to attain a learning aim or solve a problem.

Collaborative learning improves students' academic performance and reduces loneliness by encouraging physical and virtual interactions. The Curriculum Development Centre and the Government of Nepal have worked to replace rote learning with interactive and participatory methods. The revised National Curriculum Framework emphasizes active student engagement and critical thinking. Holistic growth and competency-based learning were promoted in 2019 education reforms through group discussions, projects, and problem-solving.

Many rural schools need more instructional resources, infrastructure, and teacher professional development opportunities, which may inhibit collaborative teaching. Nepalese culture values teacher-centered learning and views instructors as the authority. High student-to-teacher ratios in some public schools hinder group work and interactive sessions. This makes education more relevant and essential for pupils. Higher education institutions in Nepal are implementing collaborative learning methods, emphasizing group research, presentations, and peer assessments. This change helps grads build cooperation and problem-solving skills. This study aims to analyze the practices of collaborative teaching-learning pedagogy in Nepal.

Review Literature

Teacher training programs encourage collaborative pedagogies in Nepal's public schools, but many still utilize conventional methods. These programs teach instructors to facilitate group work, peer education, and project-based learning. Private schools, especially urban ones, employ collaborative teaching methods more. Collaboration is fostered via group activities, classroom discussions, and technology-driven learning platforms. Alkhannani (2021) explored how Collaborative Teaching and Learning (CTL) affects student satisfaction with learning outcomes, experiences, and achievements. This review emphasized the benefits of including students in traditional teaching roles. This study addresses CTL's shortcomings and future EFL classroom projects in Saudi Arabia.

Rodphotong (2018) explored how collaborative learning affects English communication and student satisfaction. Pre- and post-assessments, lesson plans, and satisfaction questionnaires were used. Collaborative learning tasks included self-introduction, school timetable, time-telling, information seeking and providing, meals, leisure activities, and person, object, and direction descriptions. The independent sample t-test found disparities. Collaborative learning changed 0.01. Students' communication abilities increased significantly. The satisfaction questionnaire showed that students like the teaching.



[Querol-Julián and Fortanet-Gómez \(2019\)](#) emphasized the cognitive engagement and promotes awareness of multiple modalities. The effectiveness was assessed in a doctoral student academic discourse course. They suggested the proactive and cooperative dismantling and formation of DSs to recognize verbal and non-verbal resources and their interpersonal roles, allowing innovative researchers to contemplate and apply them effectively.

[Shiha et al. \(2022\)](#) examined the performance of College of Nursing Governorate e-Learning students. Online education has grown since in-person programs were canceled, allowing students to continue their studies. Students, instructors, administrators, and educational leaders have struggled with the rapid switch to virtual education. Computer help, student concentration, and collaboration define e-learning. Early e-learning advances centered on computer-assisted training. Recently, e-learning has become pedagogical where e-learning includes all electronic education.

[Abildina et al. \(2024\)](#) examined how modern pedagogy affects reading literacy in Kazakhstani elementary schools. Effective teaching improves student reading and literacy in the ever-changing educational setting. This study analyzes if modern educational approaches may improve Kazakhstani primary school students' reading skills. Digital learning, interactive reading, personalized training, and collaborative learning are studied. These methods have improved children's reading literacy, suggesting modern pedagogy may close literacy disparities and promote educational fairness. The findings help educators, policymakers, and stakeholders improve reading literacy using creative instruction.

[Shamir-Inbal et al. \(2024\)](#) examined formal and informal Remote Teaching (RT) professional development. Semi-structured interviews were done with 60 elementary homeroom teachers at various career phases. The findings suggested that formal and informal teacher professional development should improve technology-integrated pedagogy and reflective teaching. Socializing with coworkers provided informal training. Internet communication improved teachers' techno-pedagogical skills. Schools taught teamwork, pedagogy, classroom management, and digital gaming. [Rawding \(2013\)](#) surveyed new and experienced educators regarding collaborative learning teams. Learning communities help educators cooperate, increasing teaching and school improvement through job-embedded professional development. Critical pedagogy empowers students and promotes social justice ([Dwikamayuda et al., 2024](#)). That study shows that critical pedagogy may question societal norms, empower underprivileged people, and promote social justice in education. The research emphasized that instructors are crucial to critical inquiry, conversation, and social justice in the classroom. Self-reflection and transformative techniques help teachers establish inclusive learning environments that engage students and empower them to change society. This study highlighted that critical pedagogy helps students develop critical thinking skills and challenge oppressive situations, contributing to transformational education and social justice discourse. In their Social Constructivist learning theory, [Nordin et al. \(2022\)](#) highlighted collaborative learning and knowledge progression. Learner self-regulation affects collaborative social interactions. Limitations in education cause learning gaps. Therapy efficacy is determined



using social network analysis. High-SR and low-SR learners are identified in intact samples. Based on vertices, geodesic distance, and graph visualization, ePBL with DT improves collaborative learning for high-SR and low-SR students. Digital technology, the national e-learning policy, and technical project-based learning benefit all students.

Action research's merits and downsides in teacher education experiential learning courses were explored by [Lualhati \(2024\)](#). The researcher did a detailed thematic analysis of participant responses. The study showed that action research improves teaching, pedagogy, problem-solving, reflective practices, collaborative learning, peer engagement, professional development, and ethical consciousness. Participants encounter time, resource, and moral challenges. As per the study, teacher preparation programs should improve time management, equitable resource allocation, and ethical training and support to overcome these issues and maximize potential.

[Wiest et al. \(2018\)](#) examined how social position and education improve learning and practice. Six participants' essays at three intervals throughout and after the course highlighted four-course content and pedagogical themes: compelling content, efficient teaching techniques, practical application of lessons, and proposed adjustments. The course's focus on deep understanding and attitudes, reflective learning in a secure classroom, and practical applications made it beneficial. Direct connection and in-depth course study were advised.

[Yang et al. \(2024\)](#) used deep learning in college physical education to boost students' practical skills and inventiveness. A four-stage, twelve-instruction deep learning framework is provided using "independent-cooperative-inquiry" in actual educational contexts. At several colleges, empirical assessments showed increased student attitudes toward physical education, collaboration, and health, resulting in 92% teacher satisfaction and 85% learning efficacy. Deep learning increases teaching and student abilities in physical education, enabling a new method. Experimentally, [Maheshwari and Seth \(2019\)](#) compared flipped classrooms to standard teaching approaches. Quality and quantity are used to assess student participation, subject matter competence, opinions, and academic accomplishment. Surveys and experiments assess student opinions on flipped classes. Classroom participation, topic expertise, academic accomplishment, cognitive abilities, a collaborative learning environment, and teaching and learning preferences were factors. Academics, managers, and researchers can learn from that study. Flipped learning encourages teacher-student cooperation, autonomous study, and class customization.

[Cheung et al. \(2018\)](#) created an interactive and collaborative scientific classroom community for young learners. A community of inquiry was used to develop course lessons. Faculty-wide gains were reported. The study found that the proposed strategy might work in scientific general education classrooms with various interests and prior knowledge. [Zhou and Li \(2024\)](#) investigated the design and implementation of a functional food course within a novel teaching model, highlighting the significance of incorporating modern educational concepts and methodologies, including case-based pedagogy, project-based learning, interactive



discussions, and collaborative learning, alongside skills and theories, contemporary educational technologies, assessment, and fee structures.

[Aquino et al. \(2021\)](#) indicated that online instruction enhanced instructors' pedagogical understanding. The followers of Vygotsky employed collaborative and developmental learning theories. The Brazilian example illustrates virtual classes' potential to enhance pedagogical students' learning experience. Ecuador demonstrates the effectiveness of asynchronous, autonomous, work-based education. [Mueller-Joseph and Nappo-Dattoma \(2013\)](#) evaluated 54 first-year dental hygiene students' intellectual and collaborative learning. The experimental group used collaborative pedagogy and equipment, whereas the control group studied pre-clinically. Collaborative learning in clinical dental hygiene education must be evaluated for cost-benefit and value-added results.

[Vasodavan et al. \(2019\)](#) developed a rubric based on a performance assessment scale to evaluate lecturer. Instructors commonly utilize instant messaging, YouTube, and discussion forums. Given their limited proficiency with collaboration tools, lecturers must select an appropriate collaborative tool for teaching a subject. The study remarked that instructors require technical pedagogical content knowledge (TPACK) skills to prepare relevant content effectively through collaborative technologies.

[Stern \(2010\)](#) investigated the classifications and conceptualizations of religious education by unschooled children, educators, and educational theorists. Research suggests that instructors and students in Religious Education may engage with various disciplines within the academic environment. [Zhang and Wu \(2024\)](#) examined the reform in a Chinese university postgraduate science and technology English writing course. The reform improved students' academic writing abilities, engagement, and satisfaction through multidisciplinary education, genre-based teaching, collaborative learning, and AI-assisted writing tools. The study recommends multimodal, genre-focused education, complete teacher training in novel pedagogical techniques, careful use of AI-assisted writing tools, and ongoing, diversified writing evaluation and feedback.

According to [Hunter et al. \(2005\)](#), collaboration and group work significantly minimize educational disparities. The study highlighted the girls and boys exhibit comparable reading gaps across provincial, national, and global adolescent studies. That influences curriculum, instructional methods, evaluation, and gender disparities within social constructivist pedagogy. [Blitz and Schulman \(2016\)](#) recommended the Professional Learning Community (PLC) for teacher professional development. These collaborative teams' help teachers improve and try new things through critical reflection. Learning communities improve teaching and classroom practices to boost student success.

[Herodotou et al. \(2019\)](#) covered novel teaching methods that improve instruction and learning. This study's pedagogies were chosen using an integrated framework with five components. The preferred methods were formative analytics, teach-back, place-based, drone-based, robotic, and citizen inquiry. The framework's five components guide each person's presentation. The findings of [Lee \(2009\)](#) showed that online interactions helped academics write thoughtful



student responses. The study shows that language teacher training discussion boards should include intelligently designed exercises that foster critical thinking, scaffold group conversations, and highlight online etiquette to avoid misunderstandings and personal disputes. Modritscher (2006) analyzed the impact of established learning theories on online classrooms. A comprehensive analysis of adult education employing constructivist, cognitive, and behavioristic e-learning methodologies. This analysis of instructional strategies includes comparing teacher and student effort, the effectiveness of each approach, the workload for students, and the elements of collaboration and social interaction in e-learning.

Methodology

A qualitative research design, particularly case studies, was adopted to explore the effectiveness of collaborative teaching-learning pedagogy in Nepalese schools and gain a deeper understanding of the lived experiences of teachers and students regarding collaborative pedagogy. Detailed case studies were conducted in selected schools where collaborative pedagogy had been successfully integrated into the curriculum. These case studies provided an in-depth understanding of schools' strategies for fostering collaborative learning. This approach allowed the research to explore the challenges schools faced in implementing these methods, how they addressed resource constraints, and the long-term effects of cooperative learning on students.

The case studies also focused on institutional support and teacher training to sustain collaborative pedagogy. This approach allowed the research to explore the nuances of how cooperative learning practices are implemented and perceived in real-world educational settings. The study sought to identify emergent themes related to the challenges and benefits of collaborative teaching from the perspectives of both teachers and students. The research relied on in-depth interviews, focus group discussions, classroom observations, and case studies to gather rich, contextual data.

The data collection methods in the study were in-depth interviews, focus group discussions, and observation. In-depth and semi-structured interviews were conducted with teachers and students to gather insights into their personal experiences with collaborative learning. Teachers were asked to describe the methods they use, the challenges they face, and the perceived impact on student engagement and learning. Similarly, students were asked to share how group work, peer learning, and teacher facilitation influenced their learning experiences.

These interviews provided a platform for participants to express their views on the effectiveness of collaborative pedagogy in enhancing their motivation, critical thinking, and interaction with peers. The other information collection method is focus group discussion. Focus groups were held separately with teachers and students to explore collective perspectives on collaborative teaching-learning pedagogy. These discussions were designed to foster dialogue and interaction among participants, allowing for the emergence of shared themes and patterns in their experiences.



Teachers discussed the role of peer support, group dynamics, and the institutional context. At the same time, students focused on the learning process, collaboration challenges, and group work's influence on their academic and social development. Similarly, direct classroom observations were carried out to document the practical implementation of collaborative pedagogy. The researchers observed interactions between students during group activities, the role of the teacher as a facilitator, and the dynamics within student groups.

These observations provided context to understand how collaborative learning unfolded in real-time, allowing for examining group interactions, student participation, and teacher interventions. A structured observation checklist was used to capture critical elements such as student engagement, group collaboration, and the role of teacher facilitation.

Data Analysis

The data collected through interviews, focus groups, observations, and case studies were analyzed using thematic analysis. The thematic analysis allowed for identifying recurring themes and patterns across the different data sources. The analysis was conducted in several steps:

Transcription and Familiarization

All interviews, focus group discussions, and observation notes were transcribed, and the researchers familiarized themselves with the data through repeated reading. This initial step helped to identify preliminary themes and patterns emerging from the data.

Theme Development

After coding, key themes were developed by grouping similar codes. The themes that emerged from the data included increased student engagement, teacher challenges in facilitation, the impact of peer learning, and the role of institutional support in implementing collaborative pedagogy.

Interpretation and Synthesis

The final step involved interpreting the data and synthesizing the themes into a coherent narrative. The researcher connected the themes to the broader research questions and objectives, providing insights into how and why collaborative pedagogy was effective (or not) in enhancing student motivation, critical thinking, and engagement. The analysis also considered the contextual factors that influenced the implementation of collaborative learning, such as cultural norms, resource availability, and class size.

Ethical Considerations

The relevant education and research authorities obtained the study's ethical approval. Informed consent was obtained from all participants, including students, teachers, and school administrators. Students under 18 provided assent, and parental or guardian consent was also obtained. Participants were assured confidentiality and anonymity, with all identifying information removed from the transcripts. Additionally, participants were informed of their right to withdraw from the study at any time without any repercussions.



Limitations

While this qualitative study offers in-depth insights into the effectiveness of collaborative teaching-learning pedagogy, it has several limitations. First, the relatively small sample size and the focus on a few schools in Nepal limit the generalizability of the findings to other contexts. Second, the absence of quantitative measures means the study does not provide objective data on student performance outcomes, such as test scores or retention rates. Third, the short-term nature of the study limits its ability to assess the long-term effects of collaborative learning on student development.

Findings

Based on the results of this qualitative research on collaborative teaching-learning pedagogy, several key findings have emerged that highlight both the potential benefits and challenges of implementing this approach in Nepalese schools:

Collaborative Pedagogy Enhances Student Engagement

Collaborative learning significantly increases student engagement. Higher levels of participation were reported by both teachers and students in classrooms utilizing collaborative methods. Even reserved students became more involved in discussions and activities, contributing to increased enthusiasm and motivation for learning.

Development of Critical Thinking and Communication Skills

Collaborative pedagogy positively impacts students' critical thinking and communication skills. Teachers noted that group discussions encouraged students to think critically, challenge ideas, and justify their reasoning. Students reported improved confidence in communicating their thoughts, leading to enhanced problem-solving abilities.

Teacher as Facilitator

Teachers shifted from being primary knowledge providers to facilitators of learning. This role redefinition empowered students to take ownership of their learning and participate actively. Some teachers indicated this transition required additional planning and monitoring time.

Cultural and Institutional Challenges

Managing collaborative activities in large classrooms proved difficult, with some students dominating discussions while others remained passive. Many rural schools lacked the materials and infrastructure for effective collaborative pedagogy. Deep-rooted cultural expectations positioned teachers as sole authorities, making it challenging for some to embrace collaborative methods fully.

Teacher Training and Support Are Crucial

Schools that successfully implemented collaborative pedagogy invested in ongoing teacher training and support. Professional development in facilitation techniques and classroom management equipped teachers to handle group work challenges. Regular skill development opportunities for teachers led to more positive outcomes in student engagement and learning effectiveness.



Peer Learning Enhances Knowledge Retention and Understanding

Peer learning significantly improved students' knowledge retention and conceptual understanding. Students found that group work helped them grasp difficult concepts, as they could explain ideas to each other in more accessible ways. This environment encouraged students to apply theoretical knowledge to real-world problems.

Group Dynamics Influence Learning Outcomes

The dynamics within student groups were crucial to the success of collaborative learning. Effective group work requires careful teacher facilitation to ensure equal participation and meet learning objectives. Issues such as unequal participation and dominance by some students highlighted the need for teacher intervention and group role assignment.

Successful Schools Adapt Collaborative Pedagogy to Local Contexts

Schools effectively integrated collaborative teaching methods by adapting them to local contexts. Teachers formed smaller working groups in larger classes and assigned specific roles to ensure equal participation. Contextual flexibility and solid institutional support contributed to successfully implementing collaborative practices.

The findings from this study highlight the transformative potential of collaborative teaching-learning pedagogy in Nepalese schools. When implemented effectively, collaborative methods enhance student engagement, foster critical thinking and communication skills, and promote active learning. However, challenges such as large class sizes, resource constraints, and cultural resistance must be addressed to fully realize the benefits of this approach. With adequate teacher training and institutional support, collaborative pedagogy holds promise as a valuable strategy for improving educational outcomes and preparing students for the demands of the modern world.

Discussions

The findings from this research on collaborative teaching-learning methodology confirm and expand the existing body of knowledge on the effectiveness of cooperative learning strategies. A key outcome of the study is the observed increase in student engagement, which aligns with previous research by [Johnson et al. \(2006\)](#) and [Kuh et al. \(2007\)](#), highlighting the positive impacts of collaborative pedagogy on motivation and participation. Teachers reported that even typically reserved students became more active participants during group activities, echoing [Rodphotong's \(2018\)](#) findings of heightened involvement in collaborative learning environments. This suggests that collaborative teaching methods can create an inclusive atmosphere where all students feel empowered to contribute, reinforcing that engagement is essential for effective learning.

In addition to enhancing student engagement, this study emphasizes the importance of collaboration in developing critical skills such as communication and problem-solving. The results indicate that collaborative pedagogy fosters active participation and encourages students to think critically and articulate their ideas more confidently. This mirrors findings from [Davidson et al. \(2014\)](#) and [Springer et al. \(1999\)](#), who argued that group work promotes higher-



order thinking and effective communication. The study's implications suggest that these skills are not limited to higher education settings but can also be cultivated in primary and secondary education, thereby broadening the applicability of collaborative methods across educational levels in Nepal.

Despite the positive findings, challenges still need to be addressed in implementing collaborative pedagogy effectively, particularly regarding class size and cultural norms. The study identified that large classrooms could hinder equitable participation and complicate group work facilitation, aligning with insights from [Modritscher \(2006\)](#) and [Cheung et al. \(2018\)](#). Furthermore, the cultural resistance to shifting from a teacher-centered to a student-centered approach presents a significant barrier ([Querol-Julián & Fortanet-Gómez, 2019](#)) noted. This underscores the need for ongoing teacher training and contextual adaptations to overcome these obstacles.

The study also highlights an area for future research: investigating how group composition, such as gender dynamics, influences student engagement in collaborative settings, a dimension not explored in this study but critical for fully understanding the efficacy of collaborative teaching methodologies.

Conclusions and Recommendations

This study investigated the effectiveness of collaborative teaching-learning pedagogy in Nepalese schools, revealing its significant positive impact on student engagement, critical thinking, and communication skills. The findings demonstrate that collaborative pedagogy enhances student participation, fosters peer learning, and promotes essential cognitive and social development. However, the research also identified critical challenges, including large class sizes, resource limitations, and cultural resistance to adopting student-centered learning approaches. Teachers who successfully adapted collaborative methods to their specific contexts, complemented by ongoing training and professional development, reported more favorable outcomes in implementing this teaching approach.

The study concludes that while collaborative pedagogy holds substantial potential for enhancing educational outcomes in Nepal, its effectiveness is contingent upon addressing the unique challenges that schools in developing countries face. By investing in teacher training, improving resource allocation, and designing curricula that prioritize collaborative methods, educational authorities can facilitate the successful integration of this pedagogy. Furthermore, focusing on contextual adaptation and cultural shifts will be essential for fostering an environment conducive to collaborative learning. Future research should continue to explore these challenges and identify strategies to maximize the benefits of collaborative teaching in diverse educational settings.

Author Contributions

Conceptualization, Literature review and finalizing the manuscript: BA, Editing, data collection and language proof reading: SS and Methodology, and Writing-original draft: OP



Data Availability Statement

The dataset used in the study is available upon the request from the corresponding author.

Conflicts of Interest

The authors declare no conflict of interest.

Funding Statement

No funding has been received for this study.

References

- Abildina, S., Sarsekeyeva, Z., Mukhametzhanova, A., Kopbalina, K., & Nurgaliyeva, S. (2024). Enhancing reading literacy among elementary school learners in Kazakhstan: The application and effectiveness of modern teaching techniques. *Journal of Infrastructure, Policy and Development*, 8(8), 5905. <https://doi.org/10.24294/jipd.v8i8.5905>
- Alkhannani, B. M. (2021). The effectiveness of collaborative teaching and learning and engaging students as partners on English language teaching in Saudi Arabia. *Theory and practice in language studies*, 11(10), 1288-1294. <https://doi.org/10.17507/tpls.1110.17>
- Aquino, O. F., Zuta, P. M., & Cao, E. R. (2021). Remote teaching in professor training: Three Latin American experiences in times of COVID-19 pandemic. *Education Sciences*, 11(12), 1-26. <http://dx.doi.org/10.3390/educsci11120818>
- Blitz, C. L., & Schulman, R. (2016). Measurement Instruments for Assessing the Performance of Professional Learning Communities. REL 2016-144. *Regional Educational Laboratory Mid-Atlantic*. <https://files.eric.ed.gov/fulltext/ED568594.pdf>
- Cheung, D. H. C., Ng, A. K. L., Kiang, K. M., & Chan, H. H. Y. (2020). Creating a community of inquiry in the science classroom: an effective pedagogy for teaching diverse students? *Journal of Further and Higher Education*, 44(1), 1-13. <http://dx.doi.org/10.1080/0309877X.2018.1491959>
- Davidson, N., Major, C. H. & Michaelsen, L. K. (2014). Small-Group Learning in Higher Education—Cooperative, Collaborative, Problem-Based, and Team-Based Learning: An Introduction by the Guest Editors. *Journal on Excellence in College Teaching*, 25(3-4), 1-6. Retrieved from https://ctl.oregonstate.edu/sites/ctl.oregonstate.edu/files/small_group_learning_in_higher_education.pdf
- Dwikamayuda, D. M., Ari, I. A. N. M. D., Ekawati, N., Nitiasih, P. K., Riastini, P. N., & Sudatha, I. G. W. (2024). Empowering education: Integrating critical pedagogy into transformative teaching strategies. *Indonesian Journal of Educational Development (IJED)*, 5(2), 230-242. <https://doi.org/10.59672/ijed.v5i2.3823>
- Herodotou, C., Sharples, M., Gaved, M., Kukulska-Hulme, A., Rienties, B., Scanlon, E., & Whitelock, D. (2019, October). Innovative pedagogies of the future: An evidence-based



- selection. In *Frontiers in Education* (Vol. 4, p. 113). Frontiers Media SA. <https://doi.org/10.3389/educ.2019.00113>
- Hunter, D., Gambell, T., & Randhawa, B. (2005). Gender gaps in group listening and speaking: Issues in social constructivist approaches to teaching and learning. *Educational Review*, 57(3), 329-355. <https://psycnet.apa.org/record/2005-09290-004>
- Johnson, D. W., Johnson, R. T., & Smith, K. A. (2014). Cooperative learning: Improving university instruction by basing practice on validated theory. *Journal on Excellence in College Teaching*, 25, 85-118. Retrieved from http://static.pseupdate.mior.ca.s3.amazonaws.com/media/links/Cooperative_learn_validated_theory.pdf
- Kuh, G. D., Kinzie, J., Buckley, J., Bridges, B., & Hayek, J.C. (2007). *Piecing together the student success puzzle: Research, propositions, and recommendations* (ASHE Higher Education Report, No. 32). Jossey-Bass. Retrieved from <https://pdfs.semanticscholar.org/447a/0d1d1e9a3ea0598682fe0cf2b986e96568b1.pdf>
- Lage, M. J., & Platt, G. J. (2000) The Internet and the inverted Classroom. *Journal of Economic Education*, 31, 11. <https://doi.org/10.1080/00220480009596756>
- Lee, L. (2009). Scaffolding collaborative exchanges between expert and novice language teachers in threaded discussions. *Foreign Language Annals*, 42(2), 212-228. <https://doi.org/10.1111/j.1944-9720.2009.01018.x>
- Lualhati, G. P. (2024). Job Satisfaction and Teaching Effectiveness in Emergency Remote Teaching among Higher Education Faculty. *Community and Social Development Journal*, 25(3), 1-12. <http://dx.doi.org/10.57260/rcmrj.2023.265660>
- Maheshwari, P., & Seth, N. (2019). Effectiveness of flipped classrooms: A case of management education in central India. *International Journal of Educational Management*, 33(5), 860-885. <https://doi.org/10.1108/ijem-10-2017-0282>
- McMahon, M. (1997). Social Constructivism and the World Wide Web - A Paradigm for Learning. Paper presented at the ASCILITE conference. Perth, Australia, (18) (PDF) *Social constructivism*. Retrieved from https://www.researchgate.net/publication/243618245_Social_Constructivism_and_the_World_Wide_Web-A_Paradigm_for_Learning
- Mödritscher, F. (2006). E-learning theories in practice: A comparison of three methods. *Journal of Universal Science and Technology of Learning*, 28(1), 3-18. https://www.researchgate.net/publication/249990312_eLearning_Theories_in_Practice_A_Comparison_of_three_Methods
- Mueller-Joseph, L. J., & Nappo-Dattoma, L. (2013). Collaborative learning in pre-clinical dental hygiene education. *American Dental Hygienists' Association*, 87(2), 64-72. <https://pubmed.ncbi.nlm.nih.gov/23986139/>
- Nordin, N., Samsudin, M. A., Mansor, A. F., & Ismail, M. E. (2020). Social network analysis to examine the effectiveness of e-PBL with design thinking to foster collaboration:



- Comparisons between high and Low self-regulated learners. *Journal of Technical Education and Training*, 12(4), 48-59. <https://doi.org/10.30880/jtet.2020.12.04.005>
- Querol-Julián, M., & Fortanet-Gómez, I. (2019). Collaborative teaching and learning of interactive multimodal spoken academic genres for doctoral students. *International Journal of English Studies*, 19(2), 61-82. <http://dx.doi.org/10.6018/ijes.348911>
- Rawding, M. R. (2013). *Exploring Middle School Math Teachers' Perceptions of the Effectiveness of Collaborative Learning Teams within Professional Learning Communities*. ProQuest LLC. 789 East Eisenhower Parkway, PO Box 1346, Ann Arbor, MI 48106. Retrieved from <https://mars.gmu.edu/bitstreams/77093b94-1d50-49b3-8126-f77467b9ae7d/download>
- Rodphotong, S. (2018). The effectiveness of collaborative learning to enhance English communicative competence: A case study of the first-year students at Thepsatri Rajabhat University. *International Journal of Pedagogy and Teacher Education*, 2, 15-143. Retrieved from <https://jurnal.uns.ac.id/ijpte/article/view/25174>
- Shamir-Inbal, T., Ungar, O.A., Hadad, S. & Blau, I. (2024). Characteristics and effectiveness of formal and informal teacher professional development for remote teaching of educators in different career stages. *Research and Practice in Technology Enhanced Learning*, (2025), 1-22. <https://doi.org/10.58459/rptel.2025.20021>
- Shihab, L. A., Kareem, A. F., Abbas, S. A., & Hussein, S. A. A. (2022). Evaluating the Effectiveness of e-Learning Students of the College of Nursing. *Webology*, 19(1), 4791-4798. <http://dx.doi.org/10.14704/WEB/V19I1/WEB19321>
- Springer, L., Stanne, M. E., & Donovan, S. S. (1999). Effects of small-group learning on undergraduates in science, mathematics, engineering, and technology: A meta-analysis. *Review of Educational Research*, 96(1), 21-51. <http://dx.doi.org/10.3102/00346543069001021>
- Stern, J. (2010). Research as pedagogy: Building learning communities and religious understanding in RE. *British Journal of Religious Education*, 32(2), 133-146. <http://dx.doi.org/10.1080/01416200903537415>
- Vasodavan, V., DeWitt, D., & Alias, N. (2019). TPACK in higher education: Analysis of the collaborative tools used by lecturers. *Juku: Jurnal Kurikulum & Pengajaran Asia Pasifik*, 7(1), 9-17. <https://juku.um.edu.my/article/view/17500>
- Vygotsky, L. S., & Cole, M., (1978). *Mind in Society: Development of Higher Psychological Processes*. Harvard University Press. <https://doi.org/10.2307/j.ctvjf9vz4>
- Wiest, L. R., Brock, C. H., Morton, C. M., Colbert, M. N., Linton, R. J., & Herrera, B. (2019). A Collaborative Journey toward Understanding the Role of Social Class in Teaching and Learning. *Journal of Education and Learning*, 8(1), 1-11. <http://dx.doi.org/10.5539/jel.v8n1p1>
- Yang, H., Xu, X., & Shu, B. Research on the Path of Improving Physical Education Teaching in Colleges and Universities Based on Deep Learning. *Applied Mathematics and Nonlinear Sciences*, 9(1), 1-20. <http://dx.doi.org/10.2478/amns-2024-0800>



NPRC Journal of Multidisciplinary Research

Vol. 1, No. 4, September 2024. Pages: 172-186



ISSN: 3059-9148 (Online)

DOI: <https://doi.org/10.3126/nprcjmr.v1i4.70965>

- Zhang, L., & Wu, Z. (2024). Enhancing Postgraduate Academic Writing Skills Through Course Reform: an Action Research Study. *Social Education Research*, 5(2), 217-233. <http://dx.doi.org/10.37256/ser.5220244202>
- Zhou, L., & Li, Y. (2024). Design and Implementation of a Functional Foods Program in an Innovative Teaching Model. *Contemporary Education and Teaching Research*, 5(4), 157-162. <http://dx.doi.org/10.61360/BoniCETR242016150402>