

Evolution On Systematic Review Of Literature On Participatory Learning Strategies For Sustainable Development In Education

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Abstract

The study explores the theoretical foundations of participatory learning strategies, highlighting the student-centred and sustainable learning approaches prevalent in modern educational contexts. This article aims to clarify the theoretical underpinnings, real-world applications, and results related to participatory learning methodologies for sustainable development of "B Schools in Bengaluru" employing an extensive literature examination. Education in participatory learning has seen a significant movement in recent years towards learner-centric approaches for sustainable development through interactive learning techniques taking centre stage (Bovill, 2020). In contrast to conventional lecture-based methods, student participation in participatory learning emphasizes teamwork, critical thinking, and hands-on learning (Des Raj Bajwa, 2017). Growing awareness of the need to equip students for the dynamic problems they will confront in various industries has sparked this trend towards active involvement.

Keywords: *participatory learning, higher education, student-centered, teachers, students, interactive learning techniques, sustainable development.*

Theoretical Framework:

A literature review is an essential component of any research study. It provides a foundation for the investigation by identifying the current state of knowledge and gaps in the literature.

The following prominent theories have contributed to developing and understanding participatory learning.

JEAN PIAGET'S THEORY OF COGNITIVE CONSTRUCTIVISM

Jean Piaget's theory of cognitive constructivism emphasizes the role of active learning in constructing knowledge². Piaget believed that learners are not passive recipients of information but active participants in the learning process³.

Piaget's theory has important implications for participatory learning strategies. Participatory learning strategies are those that involve learners in active participation in

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² Piaget, J. (1950). The origins of intelligence in children. New York: International Universities Press.

³ Flavell, J. H. (1963). The developmental psychology of Jean Piaget. New York: Van Nostrand Reinhold.

their own learning. This can be done through a variety of activities, such as group projects, case studies, and simulations⁴.

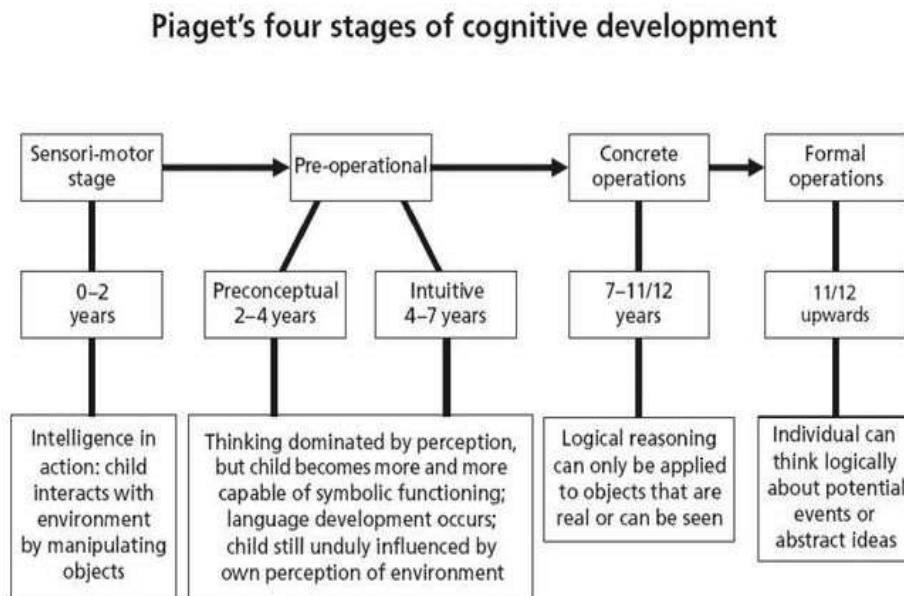
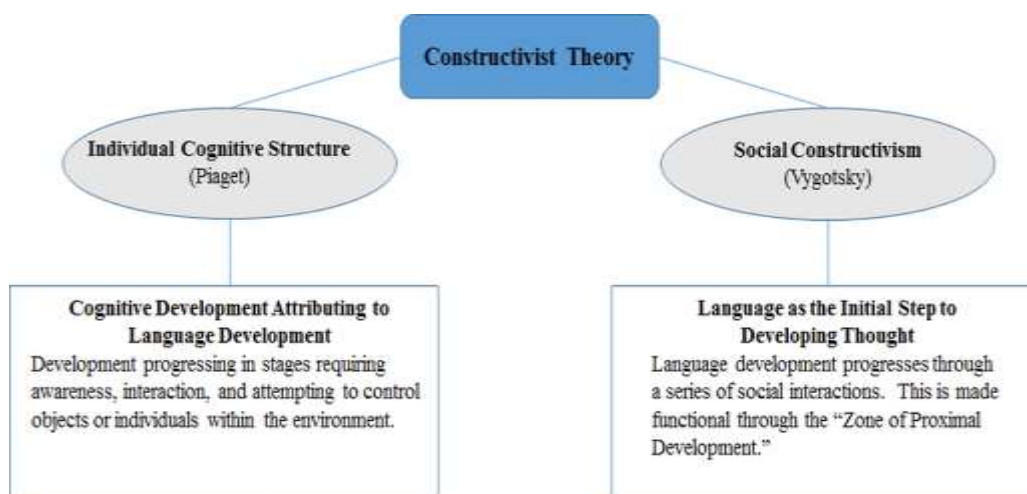


Figure 2.1. Piaget's four Stages of Cognitive Development.

For instance, a participatory learning strategy that aligns with Piaget's cognitive constructivism is the case study method. Case studies involve learners in analyzing real-world problems and developing solutions. This process allows learners to construct their understanding of the covered concepts.

LEV VYGOTSKY'S THEORY OF SOCIAL CONSTRUCTIVISM

Lev Vygotsky's theory emphasizes the social and collaborative aspects of learning. Participatory learning strategies draw from Vygotsky's idea that learning is enhanced through interactions with peers and more knowledgeable individuals.



⁴ Wadsworth, B. J. (1996). Piaget's theory of cognitive and affective development: Foundations of constructivism. White Plains, N.Y.: Longman Publishers USA.

Figure 2.2. Lev Vygotsky's theory and PLS.

Lev Vygotsky's social constructivism theory emphasises social interaction's role in constructing knowledge⁵. Vygotsky believed that learners build their knowledge through interaction with others, particularly more knowledgeable others. He also believed that the social and cultural context in which learning takes place plays a vital role in shaping the constructed knowledge⁶.

A participatory learning strategy that aligns with Vygotsky's social constructivism is collaborative problem-solving⁷.

CONSTRUCTIVIST LEARNING THEORIES

Social constructivism has important implications for participatory learning strategies. Participatory learning strategies are those that involve learners in active collaboration with others.

John Dewey's educational philosophy underscores the importance of learning through experience. Participatory learning strategies often incorporate experiential elements that resonate with Dewey's principles⁸.

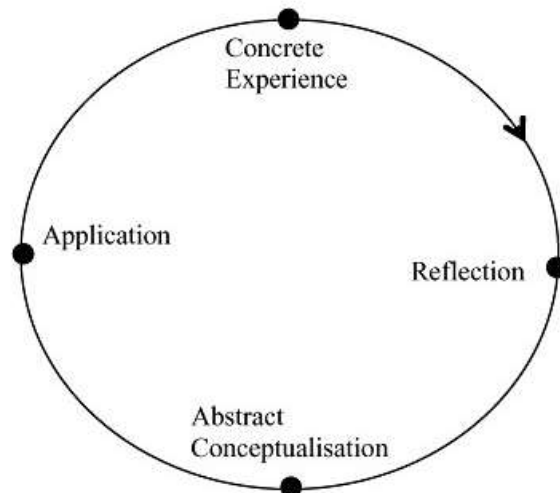


Figure 2.3. Dewey's experiential learning.

Participatory learning strategy that aligns with Dewey's experiential learning is the project-based learning method. Project-based learning involves learners working on a real-world project over a period. While working on the project, learners learn about the different steps involved in completing the project and develop the skills and knowledge necessary to complete the project successfully.

CONNECTIVISM AND NETWORKED LEARNING

⁵ Vygotsky, L. S. (1978). *Mind in society: The development of higher mental functions*. Harvard University Press.

⁶ Rogoff, B., & Lave, J. (1984). *Learning through participation in communities of practice*. Cambridge University Press.

⁷ Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of child psychology and psychiatry*, 17(2), 89-100.

⁸ Wertsch, J. V. (1985). *Vygotsky and the social formation of mind*. Harvard University Press.

George Siemens and Stephen Downes developed the connectivist theory, which explores how learning is amplified in networked and digitally connected environments⁹. This theory is pertinent in participatory learning as it embraces the idea of learning in complex, technology-mediated ecosystems.

Siemens argues that knowledge is no longer contained in individuals or institutions but is distributed across networks¹⁰. To learn effectively, individuals need to connect to these networks and create their own learning networks.

Networked learning is a type of learning that occurs through interaction and collaboration with others in networks¹¹. Networked learning can occur through various online and offline channels, such as discussion forums, social media, and face-to-face meetings.

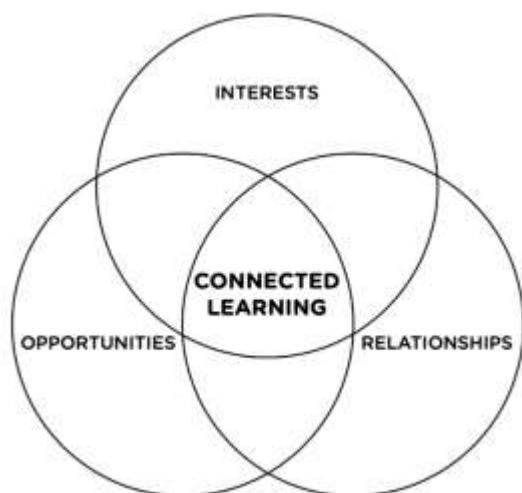


Figure 2.4. Connectivity learning theory.

Participatory learning strategies align with the principles of connectivism and networked learning. Participatory learning strategies involve learners in active participation in their own learning through collaboration with others. This allows learners to connect with others in networks and to learn from each other.

ANDRAGOGY AND ADULT LEARNING PRINCIPLES

Malcolm Knowles' theory of andragogy is a theory of adult learning. Knowles argued that adults learn differently than children and that different teaching methods are needed for adult learners¹². Knowles identified six principles of andragogy:

Participatory learning strategies align with the principles of andragogy by providing adult learners with opportunities to learn in ways that are relevant to their lives and work, and by giving them the autonomy to control their own learning¹³.

⁹ Siemens, G. (2004). Connectivism: A learning theory for the digital age. *International Journal of Virtual Learning Networks and Applications*,

¹⁰ Kop, R., & Wagner, J. (2007). Connectivism: A learning theory for the future of education. In C. Hoadley & M. North (Eds.), *Handbook of distance education* (pp. 245-254). Mahwah, NJ: Lawrence Erlbaum Associates.

¹¹ Johnson, L., Adams Becker, S., Estrada, V., & Freeman, A. (2012). *NMC Horizon Report: 2012 Higher Education Edition*. Austin, Texas: The New Media Consortium.

¹² Knowles, M. S. (1970). *The modern practice of adult education: From pedagogy to andragogy*. New York, NY: Association Press.

¹³ Brookfield, S. D. (1991). *The skillful teacher: On teaching and learning in the adult education enterprise*. San Francisco, CA: Jossey-Bass.

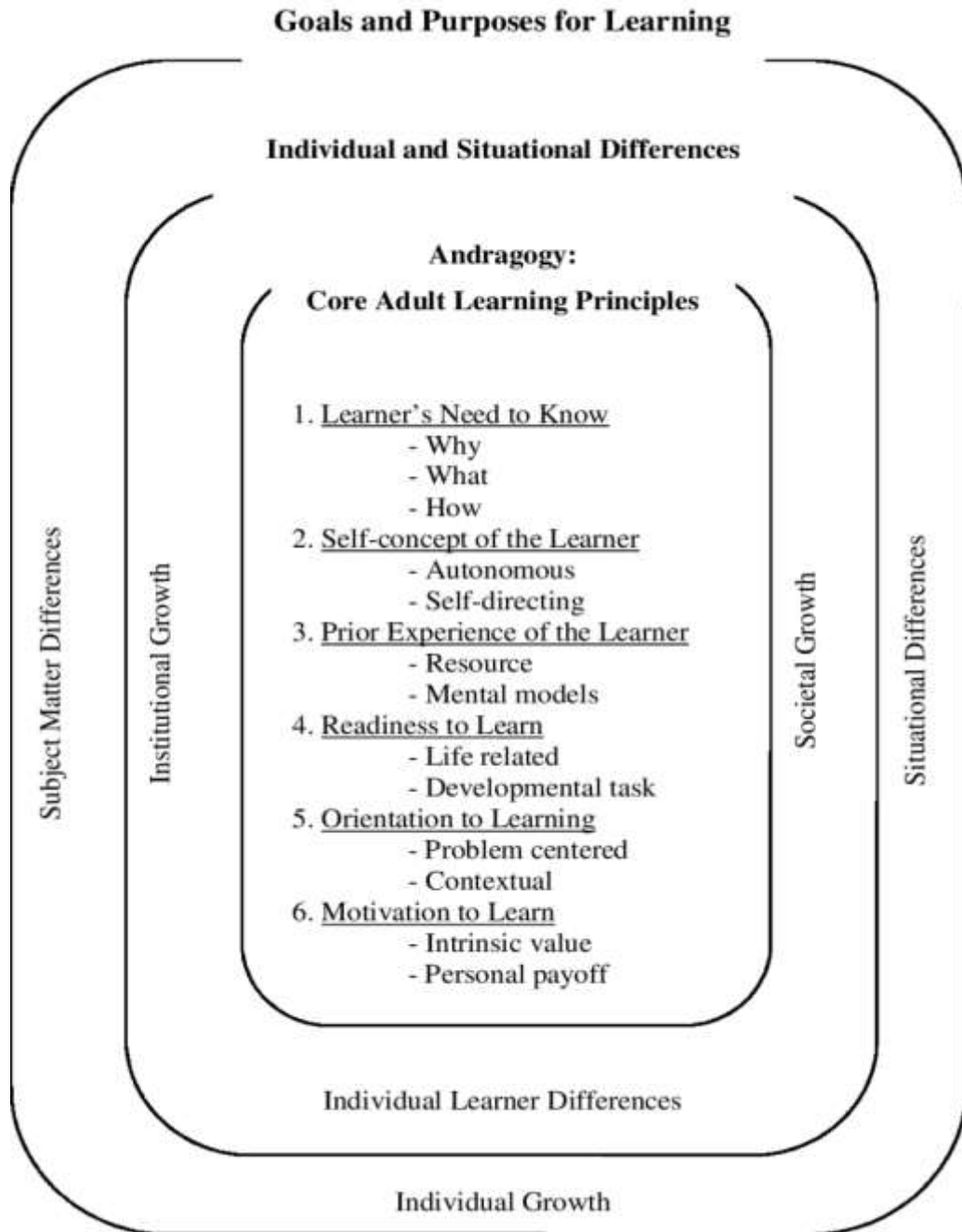


Figure 2.5. Andragogy in Practice Model (Adapted from Knowles et al., 2012, p. 4).

LITERATURE REVIEW ON PARTICIPATORY LEARNING STRATEGIES.

Barrows (1986): Barrows presents an exhaustive taxonomy of problem-based learning (PBL) methods, categorizing diverse approaches within medical education. This structured classification system provides a vital framework for educators, enabling them to design and implement effective PBL experiences for students in the healthcare field.

Dochy, Segers, Van den Bossche, & Gijbels (2003): In this comprehensive meta-analysis, Dochy et al. systematically investigate the effects of problem-based learning (PBL) on student learning outcomes.

Hmelo-Silver & Barrows (2008): Hmelo-Silver and Barrows focus on strategies to facilitate collaborative knowledge building, emphasizing the importance of shared understanding and collective construction of knowledge within problem-based learning environments. This work provides practical guidance for educators, equipping them with strategies to foster effective collaborative learning experiences.

Schmidt & Moust (2000): Schmidt and Moust thoroughly review factors that influence small-group tutorial learning. Their research provides valuable insights for educators seeking to optimize the effectiveness of this instructional method.

Vernon & Blake (1993): Vernon and Blake perform a meta-analysis to assess the overall effectiveness of problem-based learning (PBL) on educational outcomes. By aggregating findings from various studies, this research provides a comprehensive view of the effectiveness of PBL as an instructional approach.

Savery & Duffy (1996): Savery and Duffy introduce problem-based learning (PBL) as an approach that actively engages learners in constructing knowledge through problem-solving activities. Their work emphasizes the learner's active role in knowledge acquisition, providing a foundational understanding of PBL's constructivist Framework for educators and researchers.

Blumenfeld et al. (1991): Blumenfeld et al. explore strategies to motivate project-based learning and sustain student engagement. Their study focuses on practical approaches to maintain students' motivation and participation in project-based learning, offering valuable guidance for educators designing effective learning experiences centered around projects. By addressing motivational factors, this research provides practical insights for educators seeking to design engaging and effective project-based learning experiences.

Mergendoller, Maxwell, & Bellisimo (2006): Mergendoller et al. conduct a comparative study, assessing the effectiveness of problem-based instruction (PBI) in comparison to other instructional methods. Their research provides empirical evidence of PBI's positive impact on student learning outcomes, offering valuable insights for educators seeking evidence-based approaches to enhance instructional effectiveness.

Sullivan (2011): Sullivan investigates the perspectives of accounting and business faculty members on problem-based learning (PBL). The study explores their perceptions, attitudes, and experiences with PBL, offering valuable insights into educators' perspectives within the context of accounting and business education. By examining the viewpoints of faculty members, this research provides a deeper understanding of how PBL is perceived and implemented in specific academic disciplines.

Sockalingam, Rotgans, Schmidt, & Wright (2011): Sockalingam et al. examine student perceptions of problem-based learning (PBL) in an undergraduate business program. The study provides valuable insights into students' experiences, attitudes, and perspectives on PBL within the specific context of a business education program, contributing to a deeper understanding of its impact on student learning experiences.

Capon, N., & Kuhn, J. (2014): Capon and Kuhn examine how problem-based learning (PBL) facilitates the acquisition of academic and professional skills, with a focus on information systems management. The study delves into the effectiveness of PBL in this specific context, shedding light on its impact on skill development in the field.

Blumenfeld, P. C., Soloway, E., Marx, R. W., Guzdial, M., & Palincsar, A. (1991): This study delves into strategies for motivating project-based learning (PBL) and sustaining engagement. It focuses on practical approaches to maintain students' motivation and participation in project-based learning, offering valuable guidance for educators designing effective learning experiences centered around projects.

- **CASE-BASED LEARNING**

Thistlethwaite, J. E., & Davies, D. (2012): Thistlethwaite and Davies conduct a systematic review on the effectiveness of case-based learning in health professional education. The study provides valuable insights into the impact of case-based learning on learning outcomes in the context of health professions education, contributing to a deeper understanding of its effectiveness in this field¹⁴.

Hung, W. (2011): This work by Hung addresses key issues in implementing problem-based learning (PBL) and translates theoretical foundations into practical applications. By examining challenges and strategies for successful PBL implementation, this research offers valuable guidance for educators seeking to effectively integrate PBL into their instructional practices.

Dolmans, D. H., Wolfhagen, I. H., Heineman, E., & Scherpbier, A. J. (2001): This study provides a student perspective on factors adversely affecting learning in the clinical environment. By exploring students' experiences, the research offers valuable insights into the challenges and barriers that can impede learning in clinical settings, informing strategies for improving the clinical learning environment.

de Graaf, E., & Kolmos, A. (2003): This article outlines the key characteristics of problem-based learning (PBL), providing insights into its core principles and components. By delineating the essential features of PBL, the research offers a foundational understanding for educators and practitioners looking to implement this instructional approach effectively.

Williams, B. (2005): Williams conducts a comprehensive review of the literature on case-based learning in prehospital education. The study explores the potential of this educational paradigm in the context of prehospital care. By synthesizing existing research, this work offers valuable insights into the applicability and effectiveness of case-based learning in this specialized field.

Greveson, G. C. (2013): Greveson examines the impact of problem-based learning (PBL) on problem-solving skills in nursing and midwifery education. The study focuses on assessing the effectiveness of PBL in enhancing critical thinking and problem-solving abilities in these healthcare disciplines, providing valuable insights for educators in nursing and midwifery¹⁵.

Savery, J. R., & Duffy, T. M. (1995): Savery and Duffy present problem-based learning (PBL) as an instructional model with a constructivist framework. They emphasize the active role of learners in knowledge acquisition through problem-solving activities. By providing a constructivist perspective on PBL, this work offers a foundational understanding for educators and researchers.

Dillenbourg, P. (1999): In this seminal work, Dillenbourg navigates the conceptual landscape of collaborative learning. He elucidates this pedagogical approach's cognitive and computational dimensions, laying a theoretical foundation for its application. The chapter delves into the intricacies of collaborative learning, highlighting its potential to foster knowledge construction in a social context. By exploring various facets, Dillenbourg

¹⁴ Barrows, H. S. (1996). Problem-based learning in medicine and beyond: A brief overview. *New Directions for Teaching and Learning*, 68,

¹⁵ Bonney, K. M. (2015). Case study teaching method improves student performance and perceptions of learning gains. *Journal of Microbiology and Biology Education*, 16(1), 21-28.

defines collaborative learning and delineates its key elements, providing a robust framework for educators and researchers alike¹⁶.

Vygotsky, L. S. (1978): Vygotsky's influential treatise illuminates the interplay between social interaction and cognitive development. He posits that higher psychological processes evolve through social engagement and are deeply rooted in cultural practices.

Johnson, D. W., Johnson, R. T., & Smith, K. A. (2014): This article presents a comprehensive synthesis of cooperative learning theories and their applicability in university instruction. Drawing on validated theories, the authors provide actionable insights for educators seeking to enhance teaching practices. The work serves as a practical guide, offering evidence-based strategies to create engaging and effective learning environments.

Herreid, C. F., & Schiller, N. A. (2013): Focusing on case studies and the flipped classroom, this article advocates for dynamic, student-centered learning experiences. Through case studies, students are encouraged to engage with real-world scenarios actively, promoting critical thinking and problem-solving skills¹⁷.

Slavin, R. E. (1995): Slavin's comprehensive book on cooperative learning thoroughly examines the theory, research, and practical applications of this pedagogical approach. The work provides educators with a deep understanding of how cooperative learning structures can be implemented to enhance student engagement and achievement.

Garrison, D. R., Anderson, T., & Archer, W. (2000): This article delves into the realm of critical inquiry within text-based environments, focusing on computer conferencing in higher

Prince, M. (2004): Prince's article conducts a comprehensive review of research on active learning, providing evidence of its effectiveness in improving student learning outcomes. The work highlights the positive impact of active learning strategies on student engagement, retention of material, and critical thinking skills¹⁸.

Lave, J., & Wenger, E. (1991): Lave and Wenger's seminal work on situated learning introduces the concept of legitimate peripheral participation. They argue that learning is inherently social and situated within communities of practice. The book emphasizes the importance of active engagement and participation in authentic contexts for effective learning. Lave and Wenger's Framework has had a profound influence on theories of learning and provides valuable insights for educators seeking to create meaningful learning experiences.

Kearsley, G., & Schneiderman, B. (1998): This article introduces engagement theory as a framework for understanding how technology-based teaching and learning can enhance student engagement and participation. Kearsley and Schneiderman emphasize the role of interactive technologies in promoting active learning experiences.

Barron, B. (2003): Barron's research in *The Journal of the Learning Sciences* investigates the dynamics of group learning, with a focus on factors that influence the effectiveness of collaborative problem-solving in educational settings. The study sheds light on the complexities of group interactions and highlights conditions that contribute to successful

¹⁶ Breslin, M., Buchanan, R. (2008) On the Case Study Method of Research and Teaching in Design. *Design Issues*, 24(1), 36-40.

¹⁷ Jonassen, D. H., and Hernandez-Serrano, J. (2002). Case-based reasoning and instructional design: Using stories to support problem solving. *Educational Technology, Research and Development*, 50(2), 65-77.

¹⁸ McLean, S. F. (2016). Case-based learning and its application in medical and health-care fields: A review of worldwide literature. *Sage Journals*, 11(2), 1-11.

collaborative learning experiences. Barron's work provides valuable insights for educators and researchers interested in optimizing group-based learning environments.

Anderson, T., Rourke, L., Garrison, D. R., & Archer, W. (2001): This article in the *Journal of Asynchronous Learning Networks* addresses the assessment of teaching presence in computer conferencing contexts. The authors explore how instructors can effectively facilitate online discussions and support collaborative learning in virtual environments.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (2000): The book "How People Learn" provides a comprehensive overview of research on learning and cognition. The authors emphasize the importance of active, learner-centered approaches and highlight key principles for effective teaching and learning.

Chi, M. T. H., Bassok, M., Lewis, M. W., Reimann, P., & Glaser, R. (1989): This seminal article in *Cognitive Science* explores self-explanation as a powerful learning strategy. The authors investigate how students engage with and learn from examples by explaining the underlying concepts to themselves.

Cooper, J. L., & Robinson, P. (2000): This article advocates for strategies to create a sense of intimacy and engagement in large classroom settings. The authors propose practical approaches to make large classes feel more interactive and personalized, ultimately enhancing the learning experience for students.

Candy, P. C. (2002). Candy's work challenges conventional views of learning and envisions new approaches that prioritize self-directed, lifelong learning. It goes beyond constructivism to explore emerging learning paradigms for the future.

Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. (1991).

This seminal work by Deci and colleagues introduces the self-determination perspective on motivation in education. It emphasizes the importance of autonomy, competence, and relatedness in fostering intrinsic motivation and effective learning.

Garrison, D. R. (1997). Garrison presents a comprehensive model of self-directed learning, outlining key components and processes involved. The model offers a framework for understanding how learners can take an active role in their educational experiences.

Tough, A. (1999). Tough's reflections offer valuable insights into the challenges and opportunities that adult learners face. The book explores the diverse pathways individuals may take in their educational journeys, shedding light on the complexities of adult learning.

Holec, H. (1981). Holec's work explores the concept of autonomy in foreign language learning, emphasizing the role of self-directedness in language acquisition. It highlights the benefits of empowering language learners to take control of their own learning process.

Merriam, S. B., Caffarella, R. S., & Baumgartner, L. M. (2007). This comprehensive guide synthesizes theory and research on adult learning, offering a rich resource for educators and practitioners working with adult learners. It provides a foundation for designing effective learning experiences.

Knowles, M. S. (1975). Self-directed learning: Knowles' seminal work introduces the concept of self-directed learning, emphasizing the importance of individuals taking control of their own learning process. It provides practical guidance for both learners and teachers to facilitate self-directed learning experiences.

Candy, P. C. (1991). Candy's work delves into self-direction in lifelong learning, offering insights and practical strategies for individuals seeking to take charge of their own learning

journeys. It provides a comprehensive guide for self-directed learners, focusing on the skills and attitudes needed for autonomous learning.

Hiemstra, R., & Brockett, R. G. (1994). Hiemstra and Brockett advocate for the integration of self-directed learning concepts into mainstream instructional practices, challenging traditional behaviorist approaches. They highlight the importance of empowering learners to take responsibility for their own learning.

Brookfield, S. D. (1986). Brookfield's comprehensive analysis of adult learning emphasizes the importance of understanding and facilitating the unique needs and characteristics of adult learners. It provides practical strategies for educators to effectively engage and support adult learners in various educational settings.

Merriam, S. B., & Bierema, L. L. (2014). Merriam and Bierema's book provides a comprehensive exploration of adult learning, bridging theory with practical applications. It offers a valuable resource for educators and practitioners seeking to understand and facilitate effective adult learning experiences.

Knowles, M. S., Holton III, E. F., & Swanson, R. A. (2014). Knowles, Holton, and Swanson's book is a seminal work in adult education, providing a comprehensive overview of adult learning principles and their applications in various settings. It serves as a foundational resource for educators and trainers working with adult learners.

Brookfield, S. D. (2015). Brookfield's book centers on the development of teaching skills, emphasizing the importance of trust, responsiveness, and effective techniques in the classroom. It provides practical guidance for educators seeking to enhance their teaching practice. The book offers concrete strategies for improving teaching effectiveness, drawing on the author's extensive experience.

Gagné, R. M., & Driscoll, M. P. (1988). Gagné and Driscoll's book provides a foundational understanding of learning principles and their application in instructional design. It outlines key concepts and strategies for creating effective learning experiences. The book offers a structured approach to instructional design, incorporating cognitive, behavioral, and motivational components.

Collins, A., Brown, J. S., & Newman, S. E. (1989). This article introduces the concept of cognitive apprenticeship, which emphasizes learning through authentic, hands-on experiences. Some readers may find that the article's focus on specific domains (reading, writing, mathematics) may limit its applicability to other subject areas.

Wang, L., & An, N. (2017). This study investigates the impact of teaching and learning activities on student learning outcomes in statistics. It emphasizes the importance of effective instructional methods in enhancing students' comprehension of statistical concepts. The research provides valuable insights into practical pedagogical strategies for optimizing learning experiences in statistics.

Könings, K. D., Brand-Gruwel, S., van Merriënboer, J. J., & Broers, N. J. (2018). The article focuses on promoting self-regulated learning within problem-based learning environments. It offers practical approaches to empower students to take control of their own learning process. The findings contribute to the optimization of problem-based learning settings, enhancing students' ability to manage their learning effectively.

Li, L., Liu, X., & Steckelberg, A. L. (2020). This study examines the effects of different sources of peer assessment on student learning outcomes. It provides valuable insights into the effectiveness of peer assessment methods. The research offers recommendations for educators to optimize peer assessment practices, contributing to improved assessment processes in educational settings.

Alzahrani, A. I. (2020). The research evaluates the effectiveness of utilizing mobile phones to support English language learning in higher education. It highlights the potential benefits of mobile technology in enhancing language acquisition. The findings offer practical implications for educators seeking to leverage technology to improve language learning outcomes.

Dolmans, D. H., & de Grave, W. (2020). This article addresses future challenges in research on problem-based learning. It provides a forward-looking perspective on advancing problem-based learning methodologies. The insights are crucial for continual improvement and innovation in educational practices, ensuring the effectiveness of problem-based learning approaches.

Hsiao, H. S., & Kuo, C. L. (2020). The study assesses the effectiveness of online collaborative learning for cross-boundary innovation education. It sheds light on the potential benefits of collaborative learning in fostering innovation, particularly in online educational settings. The findings offer practical implications for educators and institutions aiming to promote innovation through collaborative learning experiences.

López-Pérez, M. V., Pérez-López, M. C., & Rodríguez-Ariza, L. (2021). The research explores blended learning in higher education and its impact on student perceptions and outcomes. It provides valuable insights into the effectiveness of blended learning models. The findings offer practical implications for educators seeking to integrate technology into their teaching practices, enhancing the overall learning experience for students.

Lüftenegger, M., Klug, J., & Bergsmann, E. (2021). This study highlights how students' personality traits can predict their performance in both in-class and online vocational education and training. It offers valuable insights into the role of individual characteristics in shaping learning outcomes. The findings provide practical implications for educators and institutions, allowing them to tailor instructional approaches to students' unique traits and enhance their learning experiences.

Moorhouse, B. L., Walker, R., & Fellenz, M. R. (2022). The research examines the effects of digital self-tracking on student engagement, self-efficacy, and learning outcomes. It sheds light on the potential benefits of incorporating digital self-tracking tools into educational settings. The findings offer practical implications for educators and institutions leveraging technology to enhance student engagement and learning outcomes.

RESEARCH GAP

Participatory learning strategies (PLS) have been shown to positively impact student learning outcomes in business schools. However, there is a gap between PLS practices in business schools in Bangalore and the skillset and knowledge demanded by the industry. This gap is likely to have a negative impact on the learning outcomes of students.

The following research gaps have been identified in the literature on PLS in business schools in Bangalore:

- Limited research on the impact of PLS on student learning outcomes in different business disciplines. Most of the research on PLS in business schools has been conducted in the general business context. There is a need for more research on the impact of PLS on student learning outcomes in specific business disciplines, such as finance, accounting, and marketing.
- Limited research on the factors that influence the adoption of PLS in business schools. While some research has been conducted on the factors that influence the adoption of PLS in Business schools, more research is needed to understand better these factors and how they can be leveraged to promote the adoption of PLS.

- Limited research on the challenges of adapting PLS in business schools. Business schools face several challenges in adapting PLS, such as resistance from faculty, lack of resources, and large class sizes. More research is needed to identify and address these challenges.
- Limited research on the perspective of industry towards PLS. It is important to understand the perspective of industry towards PLS in order to identify the gaps between PLS practices in business schools and the skillset and knowledge demanded by the industry.

Conclusion:

This article provided a comprehensive overview of the existing literature on participatory learning strategies (PLS) for sustainable development in business schools. The review began by defining PLS and discussing their potential benefits for student learning outcomes. It then examined the factors that influence the implementation and effectiveness of PLS in business schools. Finally, the review discussed the challenges faced in adapting PLS and identified areas for future research for sustainable development in education. Several distinctive characteristics distinguish participatory learning methodologies from traditional teaching approaches. To fully appreciate the potential influence of interactive learning on B schools, it is essential to understand these attributes fully.

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