Constructivism and its Implications for Curriculum Development in the Philippines

Jhoremar Maldo Asis

ABSTRACT

The paper examines constructivism as a learning theory and its influence on curriculum development in the Philippines, particularly within the framework of the K to 12 Enhanced Basic Education Program. It draws from the foundational contributions of Piaget, Bruner, Dewey and Vygotsky, highlighting learner- centered approaches that emphasize inquiry, collaboration and authentic learning. It also discusses implications for pedagogy, assessment, and teacher training, advocating for a shift from knowledge transmission to knowledge creation in Philippine education. This paper highlights how constructivist principles inform student- centered teaching strategies, authentic assessment practices and the evolving role of teachers as facilitators rather than mere transmitters of knowledge. Furthermore, this paper emphasizes the need for sustained teacher training, authentic assessments, and the cultural adaptation of constructivist practices in order to maximize their impact on Philippine education.

Keywords: constructivism, curriculum develop- ment, philippine education, student- centered.

Classification: LCC Code: LB1590.3

Language: English

Great Britain Journals Press

LJP Copyright ID: 573334
Print ISSN: 2515-5784
Online ISSN: 2515-5792

London Journal of Research in Humanities & Social Science

Volume 25 | Issue 14 | Compilation 1.0

Constructivism and its Implications for Curriculum Development in the Philippines

Jhoremar Maldo Asis

ABSTRACT

The paper examines constructivism as a learning theory and its influence on curriculum development in the Philippines, particularly within the framework of the K to 12 Enhanced Basic Education Program. It draws from the foundational contributions of Piaget, Bruner, Dewey and Vygotsky, highlighting learner-centered approaches that emphasize inquiry, collaboration and authentic learning. It also discusses implications for pedagogy, assessment, and teacher training, advocating for a shift from knowledge transmission to knowledge creation in Philippine education. This paper highlights how constructivist principles inform student-centered teaching strategies, authentic assessment practices and the evolving role of teachers as facilitators rather than mere transmitters of knowledge. Furthermore, this paper emphasizes the need for sustained teacher training, authentic assessments, and the cultural adaptation of constructivist practices in order to maximize their impact on Philippine education.

Keywords: constructivism, curriculum development, philippine education, student- centered.

Author: Saint Joseph College, Maasin, Southern Leyte, Philippines.

I. INTRODUCTION

For centuries, educational systems view learners as empty vessels waiting to be filled in. Teachers are considered experts and the sole source of knowledge and classrooms are a structured space for one-way knowledge transmission. However, with the demands and complexities of the modern era, the education landscape has changed profoundly. Learners are now the architects of knowledge, different from being perceived as mere receivers, while teachers are guides on the side, facilitating the learning process. The classroom is a dynamic environment that sparks the curiosity and interests of the learners. These shifts are responses to the adaptive nature and evolving role of education and are deeply rooted in the philosophical view on how learners interact with knowledge today (Khalid & Azeem, 2012).

At the core of this transformation lies the theoretical foundation of constructivism-learners construct their knowledge and make sense of it (Phillips, 1995). Historically, revolutionary thinkers formulated the foundation of constructivism as a learning theory. Piaget (1932) focused on how individuals actively build their knowledge through interaction with the environment, while Bruner (1966) emphasized discovery learning upon existing knowledge. Dewey (1974) stresses that education should be grounded in real-life activities and problem-solving. Complementing this, Vygotsky (1978) underscores the crucial role of social interaction, culture, and language in the co-construction of knowledge. Their philosophical and psychological contributions shaped the modern understanding of how learning is acquired and applied in today's classroom.

Building on these groundworks introduces the primary principle of constructivism that their prior knowledge and experience interact with novel concept to create new meaning and understanding (Resnick& Glaser, 2016). Rather than sponge-like absorption of information, learners are engineers of knowledge, actively building meaning through connecting new experience with their pre-existing cognitive frameworks, thereby fostering deep understanding and application. Constructivism views education as learner-centered, placing learners at the heart of the system and emphasizing their value and integral role in the learning process.

The Philippines consistently reforms the educational system to cater the dynamic needs of 21st century Filipino learners. One of the reformations, and perhaps the current one, is the implementation of the K to 12 or Enhanced Basic Education Program grounded in the theoretical lens and practical framework of constructivism. This program endeavors to move beyond traditional methodologies towards more learner-focused and competency-based approaches. For instance, it promotes pedagogies that foster critical thinking, problem–solving, collaboration, and authentic engagement, which are essentials for 21st-century Filipino learners in today's fast-changing world.

This paper argues that constructivism is a transformative lens for curriculum development in the context of Philippine education. It will first explore constructivism's historical and philosophical foundations and present its core principles. Subsequently, it will discuss the characteristics and challenges of the Philippine education system, specifically highlighting the K to 12 Education Program. Significantly, this paper analyzes the implications of the constructivism paradigm towards the Philippine education curriculum and provides practical recommendations for promoting authentic and learner–centered learning, equipping educators and policymakers with the tools they need to implement constructivism effectively.

1.1 Historical and Philosophical Roots of Constructivism

Although constructivism gained popularity in the 20th century, its epistemological principle already exists in older philosophical theories emphasizing the role of the mind in constructing knowledge. As a learning theory, constructivism is a groundbreaking product of the minds of prominent psychologists and educators-Piaget, Vygotsky and Bruner. While each has a distinct focus, their combined perspectives pioneered the foundation of our understanding of how we learn and the thinking process, rather than how a student can memorize information.

Jean Piaget influenced the initial idea of constructivism through his work on educational psychology (Larochelle et al., 1998). Piaget's work focuses on how individuals create meaning through interaction with their environment and personal experiences. He believed that learners bring their prior experiences into the classroom and repeatedly evaluate these to understand the newly received information (Pardjono, 2016). Piaget maintains that individuals' thinking has distinct stages and learning is a gradual process that involves assimilation, accommodation, and equilibration. These stages explain that a person first links their previous cognitive frameworks to a new concept (Assimilation) and adjusts the existing thinking patterns if the new information does not align with them (Accommodation). In this case, cognitive equilibrium between the pre–existing knowledge and new input is achieved, maintaining cognitive stability. Thus, Piaget saw cognitive development as a series of systematic organization, description and adaptation of experiences. Further, learners reorganize and refine what they already know depending on how new ideas connect with them personally.

While Piaget's cognitive theory is described as individualistic, Lev Vygotsky emphasized the influence of social context on learning. Vygotsky argues that social interaction leads to successful cognitive and intellectual development; thus, learners interact with one another for them to learn (America et al., 2021). One of the prominent concepts of Vygotsky is the zone of proximal development, which is "the realm of potential learning that each learner could reach within a given developmental span under optimal circumstances and with the best possible support from the teacher and environment" (Vygotsky, 1978). Learning is built in a social context with peers and teachers, not when learners are isolated (Zhang, 2023). Through collaborating with others and immersing in the environment, learners achieve the zone we referred to as the potential cognitive development.

To complement Piaget's and Vygotsky's view of constructivism, Jerome Bruner emphasized that learners construct their own understanding through discovery and that teachers provide

structured scaffolding to support learners (Bruner, 1978). On one hand, Bruner perceived learning as an active process where learners are encouraged to discover principles rather than through direct instruction. On the other hand, he believed that learning is a social process where the teachers must facilitate social interaction in the classroom. Both perspectives emphasized that students are motivated to discover their own values by fostering active and meaningful dialogic interactions.

1.2 Core Principles of Constructivism

Constructivism is a modern understanding of how learners process information. It is rooted in the belief that learners actively construct their own understanding and knowledge of the world by experiencing things and reflecting on them (Saarsar, 2018). This fundamental principle explains why educational systems replaced traditional, teacher-centered models of education and why student-centered educators should prioritize interactive approaches. This educational philosophy is grounded in several core principles that guide teaching and learning processes.

A key principle of constructivism is that learners are active participants in constructing their own knowledge. They don't merely receive information but they take responsibility for their own learning by setting learning goals and monitor their progress (Ayish & Deveci, 2019). Learners spend more time on doing hands–on activities, giving them the experience where they can apply what they learn. They engaged in problem-solving exercises to synthesize, conceptualize, apply and evaluate information (Chand, 2023). Moreover, they interact and collaborate with their peers to share ideas, verbalize their understanding, refine their thoughts and co-construct knowledge. Learners are encouraged to ask questions, pursue their interests and evaluate their progress. In this sense, constructivism contributes to making learning a deeper, more engaging, meaningful, active and effective process (Ricafort, 2024).

Following the concept that learners are active participants in the learning process leads to the notion that learning itself is an active process. This concept refers to the nature of how learning happens – it is constructed by the learners, not as something done to the learners. Learning is an active process that requires mental effort to process knowledge construction, meaning making continuously and cognitive engagement (Ginsburg, 2010). Learning involves employing cognitive skills through integrating prior knowledge and new information to generate novel understanding (Ku et al., 2015). Learning is no longer simply receiving and memorizing information but involves reflection and evaluation. It can be deduced that learning is making meaningful connections with what they already know and what they will encounter in the learning environment (Tangney, 2013).

Acknowledging the role of social interaction and collaboration, constructivism also highlights the social aspect of knowledge construction (Dewey, 1938) stating that learning is both an individual and a collaborative endeavor. Learning is seen as a collaborative process where individuals engage in social interactions with others to construct shared meanings and understanding (Saarsar, 2018). This view is supported by Durnford et al. (2021) who advocates the role of creating a supportive and collaborative learning environment. The kind of learning environment constructivism not only fosters individual understanding but also promotes a shared learning experience among peers, which is crucial for deeper comprehension and retention of knowledge (Sugrah, 2020). By interacting with others, learners gain new perspective, challenge their assumptions and co-construct knowledge together.

In a constructivist paradigm, the role of the teachers undergoes a significant transformation. The role of the teacher shifts from being a transmitter of knowledge to a facilitator, guide and co–learner (Sharma, 2006). The teacher assists the students in developing new insight and connects them with prior knowledge. Furthermore, the teacher must be flexible to adapt to learners' interests and needs. Singh and

Yaduvanshi (2015) believe that teachers must organize the learning environment to stimulate active inquiry and knowledge construction. This mechanism involves posing thought-provoking questions, providing resources, setting challenging problems and guiding students through complex concepts. Thus, the teacher's primary focus should be guiding students, which will lead them to develop their own understanding.

II. PHILIPPINE EDUCATIONAL CONTEXT: ITS KEY CHARACTERISTICS AND CHALLENGES

The Philippine education system is vast and diverse and is undergoing continuous revision in order to cater the millions of Filipino learners across level. The current and significant reform is the implementation of K to 12 or Enhanced Basic Education Program which basically extends the basic education by two years. The program envisions that every graduate of the K to 12 Program is an empowered individual rooted on sound principles and geared with lifelong learning skills (Mohammad, 2016). Furthermore, this program aims to ensure that every Filipino graduate is recognized across the world because they were able to master the skills and learn the core competencies necessary to meet the demands of the global market (Abragan et al., 2022).

The K to 12 Curriculum is purposefully designed to facilitate a smooth movement from a teacher-centered approach to a learner-centered approach. Learner-centered approach is a pedagogical philosophy that puts the needs and interests of the students at the center of the learning process (Ghafar, 2024). By adopting this approach, learners engage more in the learning activities and allows them to refine their learning capacities and practice (Matmuratova, 2020). In addition, it creates opportunities for learners to apply their knowledge and skills to solve authentic problems, which will lead to the development of critical skills beyond mere recall.
Supporting the learner – centered shift, another salient feature of the Enhanced Basic Education Program is the promotion of competency- based education. This approach require educators to focus on what students should understand and be able to do, rather than merely what content should be covered (Levine & Patrick, 2019). Students are empowered to make learning decisions while they receive timely, differentiated and need-based support. Competency-based education focuses on developing real-world skills such as problem-solving, communication and collaboration (Mamolo & Sugano, 2020). The development of these set of skills is essential for the learners to respond to the national and global community needs and demands.

Another critical aspect of the Philippine curriculum is its emphasis on contextualization and localization, particularly relevant considering the diverse culture and landscape of the country. The K to 12 curriculum framework encourages educators to adapt content to reflect local cultures and histories, thereby making learning more relevant to students (Pariscal & Gonzales-Aboy, 2022). This approach not only enhances student engagement but also fosters a sense of identity and belonging, as students see their own cultures and experiences reflected in their education (Aydisheh & Gharibi, 2015). Studies confirm that when students can relate learning to their own lives, they are more likely to retain information and apply it effectively (Newton et al., 2013).

These aforementioned features are continually reinforced though various Department of Education (DepEd) orders and directives .These initiatives represent a genuine effort to move away from purely transmissive teaching towards more engaging and meaningful learning experiences. However, the effective implementation of these endeavors faces significant challenges, ranging from a lack of resources and facilities in many public schools to the urgent need for extensive professional development for teachers to truly understand and apply timely, relevant, and modern pedagogies.

Among the foremost challenges is the pervasive issue of large class sizes, particularly in public schools. Such condition delimits the teacher's effort to facilitate individualized learning or small-group collaborative activities which are

essential to foster active learning (Susulan et al., 2022). Another important and widespread issue facing the education system in the Philippines is the lack of resources and infrastructure in many schools, especially in rural areas (Abragan et al., 2022). Shortage of up-to-date learning materials and technology further hinder the creation of rich, interactive learning environments (Combalicer, 2016).

Perhaps most profoundly, most Filipino teachers may not have received adequate training to fully adopt modern and learner-centered pedagogies. The deficiency often leads to resistance among teachers towards adapting new methods and continued reliance on traditional teaching methods (Hatmanto, 2023). Finally, existing assessment practices pressure teachers to "teach to the test" rather than focusing on deeper conceptual understanding and skill development (Yerdelen-Damar & Elby, 2016; Amin & Greenwood, 2018). This kind of assessment emphasizes rote learning with heavy reliance on multiple-choice tests and standardized examinations which measure factual recall, rather than knowledge application.

III. IMPLICATIONS FOR CONSTRUCTIVISM IN PHILIPPINE CURRICULUM DEVELOPMENT

The adoption of constructivist principles offers profound implications for transforming the Philippine curriculum. It fundamentally calls for a shift towards a more dynamic and learner-centered approach. Further, it will reshape crucial facets of the conventional educational practices that educators typically use. The constructivist paradigm advocates for redesigning curriculum, innovating instructional strategies, redefining assessment methods and strengthening teacher professional development.

A key implication for constructivist curriculum design is a definitive focus on conceptual understanding over rote memorization. Instead of simply requiring students to recall facts, the curriculum would emphasize "deep learning", enabling learners to apply what they learn in novel situations. To achieve this, curricula can incorporate interdisciplinary and thematic approaches, integrating concepts across discipline. For example, a unit on climate change could integrate concepts from science (ecology, physics), social studies (economics, policy) and even arts (communication campaigns), demonstrating how different areas of knowledge are interconnected and relevant to real-world issues.

The shift to constructivism necessitates a transformation in instructional strategies, placing the learner at the center of the educational process. As such, curriculum must strongly advocate for problem-based and project-based learning where students engage with authentic, real-world problems or undertake extended projects. Inquiry-based learning becomes paramount, encouraging students to ask questions, explore hypotheses, gather evidence, and construct their own answers (Bruner, 1960). Closely related is the emphasis on collaborative learning and group work, featuring frequent peer interaction, group discussions and shared problem-solving activities (Vygotsky, 1978). These activities collectively foster critical thinking, creativity, social, and practical skills.

Constructivism fundamentally redefines assessment, moving away from traditional, summative testing towards a more comprehensive and continuous evaluation of learning. Authentic assessment becomes the preferred method, where learning is evaluated in real-world contexts that reflect meaningful application of knowledge. This includes using portfolios, presentations, debates, performances, and complex projects, all designed to assess higher-order thinking skills and practical abilities rather than recall (Wiggins & McTighe, 2005). This represents a significant shift from solely relying on summative, standardized tests that often provide a limited snapshot of a student's true understanding and capabilities.

Implementing constructivism effectively in the Philippines hinges on robust teacher professional development. Teachers need extensive training in the theoretical underpinnings of constructivist pedagogies and practical classroom management

strategies for active learning environments. This training includes skills for facilitating discussions, guiding inquiry, managing collaborative groups, and providing effective scaffolding. Crucially, professional development must also focus on training teachers to design constructivist assessments that genuinely measure deep understanding and critical thinking, rather than recall (Brooks & Brooks, 1999). Ultimately, this requires a fundamental shifting of teacher mindset from lecturer to facilitator, helping them embrace their new role as guides and co-learners in the classroom. This gradual process requires ongoing support, mentoring, and opportunities for teachers to practice and reflect on their new approaches.

IV. CONCLUSION

Constructivism is a learning theory that affirms that knowledge is best gained through action, reflection, and construction. Piaget focuses on the interaction of experiences and ideas in creating new knowledge. Vygotsky explores the importance of learning alongside peers and how culture affects the accommodation and assimilation of knowledge. Bruner emphasizes discovery and the integration of real-world and classroom activities. The constructivist framework relies on the learners to be in control of their knowledge acquisition and encourages the instructor to serve as a facilitator.

The journey through constructivism's principles, roots and implications reveals its profound capacity to redefine the education landscape. As this paper has argued, constructivism holds significant potential for transforming curriculum development in the Philippines, from a mere knowledge transmission to genuine knowledge creation. The future of education in the Philippines envisions a classroom as a place of inquiry, collaboration and critical thinking; where students are not just recipients of information but active architects of their understanding; and where learning transcends the confines of the school, empowering individuals to be lifelong learners.

By consciously investing in resources, reorienting teacher training, evolving assessment practices and leveraging the inherent strengths of Filipino culture, the Philippines can harness constructivism to cultivate a generation of empowered, adaptable, and critically thinking citizens, ready to navigate the complexities of their world and contribute meaningfully to national development. This educational paradigm holds the key to unlocking the full potential of every Filipino learner, ensuring they are prepared for life as they actively participate in shaping their future.

REFERENCES

1. Abragan, F. Q., Abarcas, V., Aquino, I. M. & Bagongon, R. E. (2022). Research Review on K-12 Curriculum Implementation in The Philippines: A Generic Perspective. *European Journal of Educational and Social Sciences,* 7 (1), 1–8. https://www.doi.org/10.5281/zenodo.7272126
2. America, C., Edwards, N. & Robinson, M. (2021). Teacher Education for Transformative Education Critical Perspectives on Design, Content and Pedagogy. *African Sun Media*.
3. Amin, A. and Greenwood, J. (2018). The examination system in bangladesh and its impact: on curriculum, students, teachers and society. *Language Testing in Asia*, 8(1). https://doi.org/10.1186/s40468-018-0060-9
4. Aydisheh, F. and Gharibi, H. (2015). Effectiveness of constructivist teaching method on students‟ mathematic academic achievement. Mediterranean Journal of Social Sciences. https://doi.org/10.5901/mjss.2015.v6n6s2p572
5. Ayish, N. & Deveci, T. (2019). Student perceptions of responsibility for their own learning and for supporting peers' learning in a project-based learning environment. *International Journal of Teaching and Learning in Higher Education, 31* (2), 224–237. Retrieved from https://files.eric.ed.gov/fulltext/EJ1224347.pdf
6. Brooks, J. G., & Brooks, M. G. (1993). In search of understanding: The case for constructivist classrooms. Association for

Supervision and Curriculum Development. NDT Resource Center database
7. Bruner, J. S. (1966). Toward a theory of instruction. Belknap Press of Harvard University.
8. Bruner, J. S. (1966). Toward a theory of instruction. *Cambridge, Mass.: Belkapp Press*.
9. Chand, S. P. (2023). Constructivism in Education: Exploring the contributions of Piaget, Vygotsky, and Bruner. *International Journal of Science and Research (IJSR)*, *12*(7), 274–278. https://doi.org/10.21275/sr23630021800
10. Chandraja, C. V., Ajayan, T., Ruskin, S., & George, M. (2024). 21st century teaching and learning in classrooms. IIP Series: Innovative Pedagogies: Adapting Teaching Strategies for Modern Learning Environments. https://www.iipseries.org/assets/docupload/rsl2024AFB362D7F2D6F33.pdf
11. Combalicer, L. (2016). Best practices and problems in the initial implementation of the K+12 Curriculum among teachers in Infanta, Quezon: its implications to an effective implementation of senior high school. Journal of Education and Social Sciences. Retrieved from https://www.jesoc.com/wpcontent/uploads/2016/08/Edu-4.pdf
12. Department of Education. (2010). Discussion Paper on the Enhanced K+12 basic Education Program. Department of Education. Retrieved from http://ceap.org.ph/.
13. Dewey, J. (1938) *Experience and Education*. New York: Collier Books.
14. Ghafar, Z. N. (2024). A Learner-Centered Approach to Learning: Students from Diverse Professional Backgrounds. Journal of Digital Learning and Distance Education, 3 (2), 958-966. https://doi.org/10.56778/jdlde.v3i2.302
15. Ginsburg, M. (2010). Improving educational quality through active-learning pedagogies: A comparison of five case studies. Educational Research, 1(3), 62-74.
16. Hallas, J. (2008). Rethinking teaching and assessment strategies for flexible learning environments. https://ascilite.org/conferences/melbourne08/procs/hallas.pdf
17. Hatmanto, E. (2023). Crafting dynamic lesson plans: designing differentiated learning approaches for teaching reading skills in the philippines. iccs, 1(2). https://doi.org/10.18196/iccs.v1i2.124
18. Khalid, A. & Azeem, M. (2012). Constructivist vs traditional: effective instructional approach in teacher education. International Journal of Humanities Social Science, 2(5), 170-177.
19. Krahenbuhl, Kevin. (2016). Student-centered Education and Constructivism: Challenges, Concerns and Clarity for Teachers. The Clearing House: A Journal of Educational Strategies, Issues and Ideas. 89. 1-9. 10.1080/00098655.2016.1191311
20. Ku, K. Y., Phillipson, S., & Phillipson, S. N. (2015). Educational Learning Theory. In *Elsevier eBooks* (pp. 238–245). https://doi.org/10.1016/b978-0-08-097086-8.92150-0
21. Larochelle, M., Bednarz, N., & Garrison, J. W. (1998). Constructivism and Education. In Google Books. Cambridge University Press. https://books.google.com.fj/books?hl=en&lr=&id=6NCq3zyWkNsC&oi=fnd&pg=PR7&dq=Larochelle
22. Levine, E. & Patrick, S. (2019). What is competency-based education? An updated definition. Aurora Institute. https://aurora-institute.org/resource/what-is-competency-based-education-an-updated-definition/
23. Matmuratova, N. A. (2020). Five characteristics of leaner-centered teaching. Chronos Journal, 3(42). https://doi.org/10.31618/2658-7556-2020-42-3-7
24. McLeod, S. (2025). Constructivism Learning Theory & Philosophy of Education. *Simply Psychology*. Retrieved July 7,2025, from https://www.simplypsychology.org/constructivism.html
25. Mohammad, N.K., (2016). The Perception of The Parents and Students on The Implementation of K – 12 Basic Education Program in The Philippines. International Conference on Education (IECO) Proceeding, 2016 ISBN: 978-602-6988-218
26. Newton, S., Harris, M., & Pittiglio, L. (2013). Constructivist philosophy and nursing student medication calculations. Research and Theory

for Nursing Practice, 27(2), 88-94. https://doi.org/10.1891/1541-6577.27.2.88
27. Oxford, R. L. (1997). Constructivism: Shape-shifting, substance, and teacher education applications. Peabody Journal of Education, 72(1), 35–66. https://doi.org/10.1207/s15327930pje7201_3
28. Pardjono, P. (2016). Active Learning: the Dewey, Piaget, Vygotsky and Constructivist Theory Perspectives. *DOAJ (DOAJ: Directory of Open Access Journals)*, *9*(3), 105376. https://doi.org/10.17977/jip.v9i3.487
29. Pariscal, D. and Gonzales-Aboy, I. (2022). Practices in the contextualization of the english curriculum in the public secondary schools. Technium Social Sciences Journal, 37, 60-75. https://doi.org/10.47577/tssj.v37i1.7594
30. Phillips, D. C. (1995). The good, the bad, and the ugly: The many faces of constructivism. *Educational researcher, 24* (7), 5-12. https://doi.org/10.3102/0013189X024007005
31. Piaget, J. (1932). *The moral judgment of the child*. London: Routledge & Kegan Paul.
32. Resnick, L. B. & Glaser, R. (2016). Knowing, learning and instruction: essays in honor of Robert Glaser. Routledge.
33. Ricafort, J. D. (2024). Effectiveness of Active Learning Strategy in Improving Students' Conceptual Understanding of Light and Optics. *Puissant*, *5*, 1300-1317.
34. Saarsar, P. (2018). Exploring the Constructivist Approach in Education: Theory, Practice and Implications. 05. 717-725.
35. Saarsar, P. (2018). Exploring the Constructivist approach in Education: theory, practice, and implications. *ResearchGate*. https://www.researchgate.net/publication/379669385_Exploring_the_Constructivist_Approach_in_Education_Theory_Practice_and_Implications
36. Sharma S. Constructivist approaches to teaching and learning. New Delhi, India: NCERT; 2006
37. Singh S, Yaduvanshi S. Constructivism in science education: Why and how. International Journal of Scientific and Research Publications. 2015;5(3).
38. Susulan, N. , Talipan, S. & Matolo, M. (2022). Class Size: Its Implication to Pupils' Learning. *Psychology and Education: A Multidisciplinary Journal, 4* (1), 88-91. https://doi.org/10.5281/zenodo.7032266
39. Tangney, S. (2013). Student-centred learning: a humanist perspective. Teaching in Higher Education, 19(3), 266–275. https://doi.org/10.1080/13562517.2013.860099
40. Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
41. Yerdelen-Damar, S. and Elby, A. (2016). Sophisticated epistemologies of physics versus high-stakes tests: how do elite high school students respond to competing influences about how to learn physics?. Physical Review Physics Education Research, 12(1). https://doi.org/10.1103/physrevphyseducres.12.010118
42. Zhang, Z. (2023). Collaborative learning in social constructivism: promoting english learning in a secondary classroom in china. Journal of Education and Educational Research, 3(3), 1-5. https://doi.org/10.54097/jeer.v3i3.9509