

*Special Issue of the
Interdisciplinary Journal of Problem-based Learning:
Designing for Equity within Problem-Based and Project-Based Learning*

Project-based and problem-based learning (PBL) are student-centered instructional approaches that immerse students in meaningful learning experiences that address authentic real-world questions and problems (Saavedra et al., 2022). Research indicates that these approaches have benefits for students across levels and disciplines (e.g., Lucas Education Research, 2021a). In addition to increasing students' academic achievement (Wilder, 2015), PBL offers students more opportunities to collaborate with peers and reflect on their work (Krajick et al., 2023) and supports the development of students' social emotional skills (Culclasure et al., 2019). K-12 PBL research spans content areas including social studies and literacy (Duke et al., 2020), science (Krajcik et al., 2023), mathematics (Merritt et al., 2017), computing (Oliveira et al., 2013), and STEM (Odell et al., 2019). Interest in implementing and researching PBL practices has grown substantially in the past fifteen years (Hallinger, 2021), yet only a few researchers have considered how PBL can be designed and implemented to support equity and promote social justice in schools.

The PBL literature acknowledges that cultural differences can impact the PBL process (Wijnia et al., 2019), and a need to be aware of the impact of culture when designing and researching PBL (Hallinger, 2021). Multiple researchers, including Avendano and colleagues (2019), have promoted PBL as a means of bringing equity to underserved communities, but PBL is not inherently equitable. Caires-Hurley et al. (2020) examined PBL lessons developed for culturally and linguistically diverse learners and found the "meaningful, real-world" problems were centered on mainstream, dominant perspectives. Their study called into question the usefulness of PBL for diverse learners when developed without a multicultural perspective. Teachers need professional learning opportunities to explore what equity and justice looks like in their context (Felton-Koestler, 2019). Teacher engagement in inquiry and critical reflection around their equity-oriented actions (Dodman et al., 2022) can help teachers develop beliefs and practices that support the learning of each and every student in their classroom.

Systemic equity challenges in education place students from minoritized populations on an uneven footing, restricting access and opportunity for these students. The use of culturally relevant teaching strategies (Ladson-Billings, 1995), culturally responsive pedagogy (Gay, 2000), culturally sustaining pedagogies (Paris, 2012), and culturally and historically responsive literacy (Muhammad, 2022) have all been promoted to address inequities in education. These approaches focus on student learning, uphold students' cultural integrity, and nurture the development of a sociopolitical consciousness. PBL can be positioned as an asset-based, equity pedagogy when it includes "caring and supportive classroom environments, coursework that is real-world relevant, opportunities for cooperative learning, scaffolding and differentiation, high expectations, development of sociopolitical consciousness, and respect and appreciation for a student's home culture" (Hinnant-Crawford et al., 2023, p. 3).

As PBL practices continue to spread across a variety of contexts, we have an opportunity to ensure that research in our field serves to disrupt inequities and challenge injustices in education rather than allowing them to become invisible through their regularities in practice (Calabrese-Barton & Tan, 2020). It is our hope that this special issue of the IJPBL creates an opportunity for collecting and sharing some of the effective and innovative ideas related to the design and implementation of PBL for equity and social justice. We look forward to helping disseminate collected ideas to other educators so that more students might benefit from improved practices.

Potential topics include but are not limited to:

- QuantCrit methodologies within PBL intervention or evaluation studies
- Evidence that PBL instruction can help close the opportunity gap and disrupt inequities
- Culturally responsive and sustaining approaches to designing and implementing PBL
- Designing PBL to advance social justice within and across disciplines
- Incorporating socio-cultural consequences of the problems addressed in PBL
- How PBL can incorporate the diversity of ways of knowing, thinking, and being

Important Dates:

- **Author submission of extended abstract due: October 31, 2023**
- **Issue Date for Manuscript Invitations: December 1, 2023**
- **Full papers due: Feb 15, 2024**
- **1st Reviews Completed by: April 1, 2024**
- **Decisions from 1st Reviews: April 15, 2024**
- **Author revisions due June 1, 2024**
- **2nd round/final decisions July 1, 2024**
- **Final papers due: August 15, 2024**

Submission Types:

- Research Papers
- Conceptual Papers
- Voices from the Field

The review process for this special issue will take place in two stages. In Stage 1, authors will submit an **extended abstract** that describes key dimensions of the proposed manuscript, including a summary of the manuscript's approach (conceptual analysis, philosophical inquiry, empirical study, case study, historical analysis, etc.) and/or methods, as well as findings and implications. This extended abstract should not exceed 1,000 words (references, tables, and figures are not subject to the word limit), and should not be blinded. The special issue guest editors will review the extended abstracts submitted in order to invite full manuscript submission. Submissions with potential suitability for the special issue will then be invited to submit a full manuscript that will go through the blinded review process for possible inclusion in the special issue.

Manuscript Guidelines:

- Maximum word count: 7,000 excluding references and tables
- The suggested proposal/paper structure (for research papers):
 - Introduction (with clear statement of the research problem)
 - Literature review
 - Research questions
 - Methods (detailed description of the PBL model used, research design, instruments, validity/reliability, or appropriate analogues)
 - Data analysis
 - Results or conclusions
 - Discussion (including limitations and future work)
- Conceptual papers should be structured around key themes salient to any topic or any combination of the topics identified in this call and should have clear focus providing practical or theoretical implications for future efforts.

Submissions:

Extended abstracts and full paper submissions will only be accepted through the IJPBL Electronic Submission System at <http://ijpbl.org>.

- Please include “2024 Special Issue: Designing for Equity within Problem-Based and Project-Based Learning.” prior to your title in the submission system and in your proposal/full manuscript.
- Extended abstracts (due by October 31) need not be blinded. However, if invited to submit a full manuscript, be sure to remove any identifying information for review.

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References

- Avendano, L., Renteria, J., Kwon, S., & Hamdan, K. (2019). Bringing equity to underserved communities through STEM education: implications for leadership development. *Journal of Educational Administration and History*, 51(1), 66-82. <https://doi.org/10.1080/00220620.2018.1532397>
- Caires-Hurley, J., Jimenez-Silva, M., & Schepers, O. (2020). Transforming education with problem-based learning: documenting missed opportunities for multicultural perspectives. *Multicultural Perspectives*, 22(3), 118-126. <https://doi.org/10.1080/15210960.2020.1792303>
- Calabrese Barton, A., & Tan, E. (2020). Beyond equity as inclusion: A framework of “rightful presence” for guiding justice-oriented studies in teaching and learning. *Educational Researcher*, 49(6), 433-440. <https://doi.org/10.3102/0013189X20927363>
- Culclasure, B. T. , Longest, K. C. , & Terry, T. M. (2019). Project-Based Learning (Pjbl) in Three Southeastern Public Schools: Academic, Behavioral, and Social-Emotional Outcomes. *Interdisciplinary Journal of Problem-Based Learning*, 13(2). <https://doi.org/10.7771/1541-5015.1842>
- Dodman, S. L., Holincheck, N., & Fox, R. K. (2022). How a cultural lens can help teachers disrupt inequity. *The Learning Professional*, 43(1), 58-62. <https://eric.ed.gov/?id=EJ1333719>
- Duke, N. K., Halvorsen, A. L., Strachan, S. L., Kim, J., & Konstantopoulos, S. (2021). Putting PjBL to the test: The impact of project-based learning on second graders’ social studies and literacy learning and motivation in low-SES school settings. *American Educational Research Journal*, 58(1), 160-200. <https://doi.org/10.3102/0002831220929638>
- Felton-Koestler, M. D. (2019). "Children know more than I think they do": The evolution of one teacher's views about equitable mathematics teaching. *Journal of Mathematics Teacher Education*, 22, 153-177. <https://doi.org/10.1007/s10857-017-9384-0>
- Gay, G. (2000). *Culturally responsive teaching: Theory, research, and practice*. Teachers College Press.
- Hallinger, P. (2021). Tracking the evolution of the knowledge base on problem-based learning: A bibliometric review, 1972-2019. *Interdisciplinary Journal of Problem-Based Learning*, 15(1). <https://doi.org/10.14434/ijpbl.v15i1.28984>
- Hinnant-Crawford, B., Bergeron, L., Virtue, E., Cromartie, S., & Harrington, S. (2023). Good teaching, warm and demanding classrooms, and critically conscious students: Measuring student perceptions of asset-based equity pedagogy in the classroom. *Equity & Excellence in Education*, 1-17. <https://doi.org/10.1080/10665684.2023.2166446>

Krajcik, J., Schneider, B., Miller, E. A., Chen, I. C., Bradford, L., Baker, Q., ... & Peek-Brown, D. (2023). Assessing the effect of project-based learning on science learning in elementary schools. *American Educational Research Journal*, 60(1), 70-102.

<https://doi.org/10.3102/00028312221129247>

Ladson-Billings, G. (1995). But that's just good teaching! The case for culturally relevant pedagogy. *Theory into Practice*, 34(3), 159-165. <https://doi.org/10.1080/00405849509543675>

Lucas Education Research (2021). *The Evidence is Clear: Rigorous Project-Based Learning is an Effective Lever for Student Success*. <https://www.lucasedresearch.org/research/research-briefs/>

Merritt, J., Lee, M. Y., Rillero, P., & Kinach, B. M. (2017). Problem-based learning in K–8 mathematics and science education: A literature review. *Interdisciplinary Journal of Problem-Based Learning*, 11(2). <https://doi.org/10.7771/1541-5015.1674>

Muhammad, G. E. (2022). Cultivating genius and joy in education through historically responsive literacy. *Language Arts*, 99(3), 195-204. <https://doi.org/10.58680/la202231623>

Odell, M. R., Kennedy, T. J., & Stocks, E. (2019). The impact of PBL as a STEM school reform model. *Interdisciplinary Journal of Problem-Based Learning*, 13(2). <https://doi.org/10.7771/1541-5015.1846>

Oliveira, A. M. C. A., dos Santos, S. C., & Garcia, V. C. (2013, October). PBL in teaching computing: An overview of the last 15 years. In *2013 IEEE Frontiers in Education Conference (FIE)* (pp. 267-272). IEEE. <https://doi.org/10.1109/FIE.2013.6684830>

Paris, D. (2012). Culturally sustaining pedagogy: A needed change in stance, terminology, and practice. *Educational Researcher*, 41(3), 93-97. <https://doi.org/10.3102/0013189X12441244>

Saavedra, A. R., Lock Morgan, K., Liu, Y., Garland, M. W., Rapaport, A., Hu, A., ... & Haderlein, S. K. (2022). The Impact of Project-Based Learning on AP Exam Performance. *Educational Evaluation and Policy Analysis*, 44(4), 638-666. <https://doi.org/10.3102/01623737221084355>

Wijnia, L., Loyens, S. M., & Rikers, R. M. (2019). The problem-based learning process: An overview of different models. In M. Moallem, W. Hung, & N. Dabbagh (Eds.), *The Wiley handbook of problem-based learning*, 273-295. <https://doi.org/10.1002/9781119173243.ch12>

Wilder, S. (2015). Impact of problem-based learning on academic achievement in high school: A systematic review. *Educational Review*, 67(4), 414-435. <https://doi.org/10.1080/00131911.2014.974511>