

OPEN ACCESS: Research Article 

Reconceptualizing Problem-Based Learning for Transformative Learning: A Qualitative Study in Higher Education

Farisha Andi Baso^{1*}, Eka Prabawati Rum², Ratu Yulianti Natsir³, Markus Deli Girik Allo⁴

¹English Education, Teacher Training and Education Faculty, Universitas Muhammadiyah Makassar, Makassar, Indonesia

*Correspondence e-mail: farisha@unismuh.ac.id

Received : 2025-10-08

Revision : 2026-03-09

Accepted : 2026-02-04

Published : 2026-03-31

Abstract

Problem-Based Learning (PBL) is widely recognized for enhancing critical thinking, yet it often remains procedural in practice. Transformative Learning (TL) theory provides a framework for shifting these methods toward deep perspective transformation. The aim of this study investigates the "upturning" of the PBL paradigm to facilitate transformative learning experiences and identifies which design elements most significantly drive viewpoint shifts in learners. The research Method Utilizing a qualitative phenomenological design, data were collected from 15 university students through semi-structured interviews, focus group discussions, and reflective learning logs. The data were analyzed using thematic analysis to identify patterns in learner experiences. The result findings found the thematic analysis revealed that the intentional integration emerged: (1) the confrontation of disorienting dilemmas, (2) the necessity of systematic critical reflection, (3) the impact of dialogic collaboration, and (4) significant alterations in self-perception and learning orientation. Students reported increased confidence in managing ambiguity and greater empathy through peer dialogue. The Implication of this research contributes to the field by integrating PBL and TL frameworks, demonstrating that intentional design rather than just problem solving is required for transformative growth. Practically, it suggests that educators should prioritize authentic, ethically complex problems and structured reflection over simple task completion.

Keywords: *Problem-based Learning (PBL); Transformative Learning (TL); Pedagogical Reconceptualization.*



1. Introduction

Transformative learning (TL) is a critical dimension of higher education aimed at expanding individual understandings, beliefs, and worldviews. This student-centered approach emphasizes the development of 21st-century skills such as interpersonal communication, creativity, and critical thinking by engaging learners in a process of effecting change in their "frame of reference". Transformative learning is a theoretical framework that primarily emphasizes adult education and the learning processes of young adults. Transformative learning, sometimes referred to as transformational learning, emphasizes the concept that learners can modify their cognitive frameworks in response to new information.

Problem-Based Learning (PBL) is a widely adopted strategy designed to facilitate this through active exploration of real-world challenges. However, a significant educational problem persists in traditional classrooms, PBL often becomes overly procedural. Educators report that students frequently focus more on completing technical steps than on the deeper process of personal growth and meaning making. This limitation necessitates "upturning" the conventional PBL application to better align with the core objectives of transformative learning.

Current research demonstrates that while PBL consistently enhances critical thinking and motivation, its success varies significantly across contexts. Recent reviews suggest that the efficacy of PBL depends heavily on the quality of problem design, scaffolding, and the depth of implementation. Simultaneously, Transformative Learning theory emphasizes that learners must modify their cognitive frameworks through critical reflection and dialogic participation. Scholars like Kroth and Cranton (2022) have advocated for expanding TL to encompass emotional and sociocultural dimensions to avoid theoretical stagnation. While a logical connection exists between PBL's inquiry cycle and TL's goal of challenging assumptions, most current educational models treat perspective transformation as a secondary outcome rather than a primary instructional design objective. Transformative learning is defined as "the process of effecting change in a frame of reference" (p. 5). A student's frame of reference encompasses their perspective and their cognitive habits. Prior learning experiences and cultural norms influence the student's habits of mind, while personal beliefs and attitudes determine the student's perspectives (Mezirow, 1997). PBL is a flexible, student-centered teaching style that focuses on learning by actively exploring real-world problems and obstacles. Karimi (2011) John Dewey's theory of experiential education, which emphasizes the significance of learning via experience, serves as the underlying theoretical basis for Project-Based Learning (PBL).

Recent studies show that Problem-Based Learning (PBL) consistently leads to outcomes including critical thinking, motivation, and self-directed learning, but the strength of these benefits differs. A systematic review conducted in 2023 on critical-thinking-oriented PBL adaptations revealed predominantly favorable outcomes when PBL was restructured to focus on reasoning and metacognitive engagement. However,

results varied across different contexts, underscoring the necessity for more explicit design principles (Chiang et al., 2023). A meta-analysis of problem-, project-, and case-based learning also found that student motivation improved by a small to moderate amount. The success of these types of learning depended on the quality of the problems, the scaffolding, and the depth of the implementation (Xu et al., 2024). These findings indicate that the efficacy of PBL is contingent not only on problem-solving capabilities but also on the design's facilitation of reflection and the construction of deeper meaning.

In contrast, transformative learning (TL) research emphasizes the importance of viewpoint shift and critical reflection. Mezirow's initial framework continues to exert influence; nevertheless, contemporary scholarship advocates for its expansion. Kroth and Cranton (2022) observe that TL studies frequently encounter stagnation due to definitional and methodological disputes, and they advocate for a reconfiguration of TL to encompass emotional, relational, and sociocultural aspects. Another review showed that structured opportunities for conversation, reflection, and real-world practice are very important for helping learners have transformative experiences (Nguyen et al., 2023). These insights directly influence PBL, wherein realistic, real-world situations can facilitate perspective transformation when integrated with reflective practice.

These strands of literature collectively assert that the inversion of PBL necessitates the intentional incorporation of TL principles critical reflection, dialogic participation, and unsettling dilemmas enabling learners to transcend mere procedural problem-solving and achieve transformative growth. As shown in Figure 1 about the relation between PBL and TL.

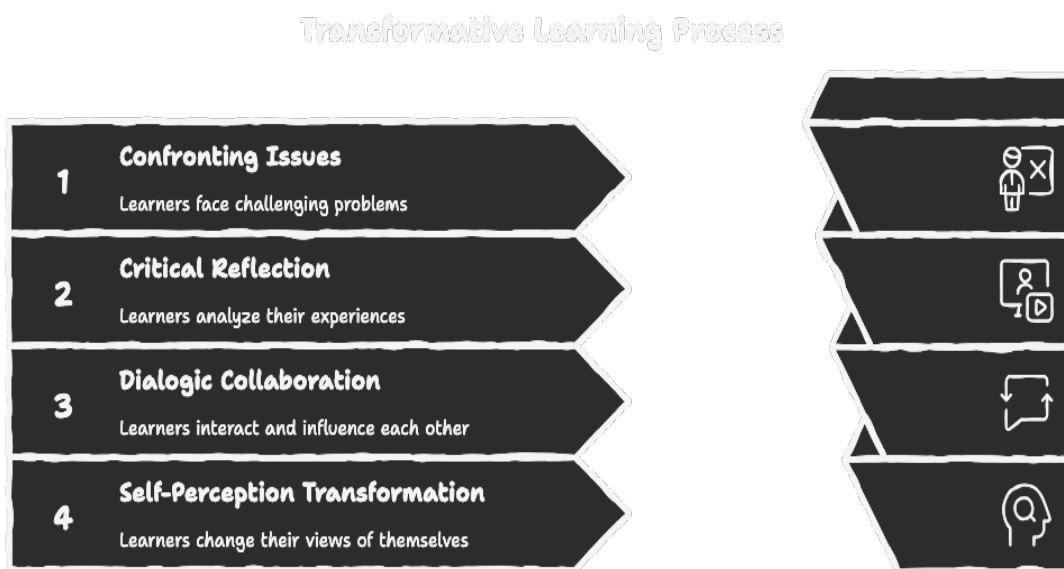


Figure 1. Problem-Based Learning in the Transformative Learning Process

Despite the recognized synergy between inquiry-based inquiry and reflective practice, there is a lack of research on the intentional reconfiguration of PBL specifically to drive transformative experiences. There is an urgent need to investigate how to "upturn" the

PBL paradigm so that the shift in learner perspectives becomes the central goal, with problem-solving acting as the supporting mechanism. This has led to models that encourage critical thinking, problem solving, and learning on your own. Problem-Based Learning (PBL) is one of these strategies that have become very popular. It is meant to get students to actively explore real-world problems through group inquiry and reflection. Many teachers say that PBL can become more about following steps than about changing things, with students focused more on finishing problems than on the deeper process of making sense of things and growing as people.

The need for this conceptualization is also based on how quickly things are changing in schools and society today. Learners encounter a variety of obstacles, including technology disruption, cultural diversity, and sustainability issues. These problems require not only technical solutions but also critical thinking and action that change things. In that case, they may graduate with high technical skills but not be able to adapt, empathize, or think critically. Consequently, there exists an urgent necessity to re-evaluate the conceptualization of PBL as a conduit for transformative learning rather than only a fixed instructional instrument.

This study aims to investigate the reconfiguration of the problem-based learning paradigm to facilitate transformative learning experiences. It specifically seeks to examine how PBL may be restructured to promote critical thinking, viewpoint transformation, and the construction of meaning among learners. The study is directed by the subsequent research questions:

1. What is the learners' experience of the flipped problem-based learning method in promoting transformative learning?
2. What aspects of the PBL approach most significantly facilitate the transformation of learners' perspectives?

2. Methods

Research design of this study employs qualitative research design with a phenomenological approach. Phenomenology was selected to investigate the fundamental nature of learners lived experiences and subjective interpretations during their participation in reconceptualization Problem-Based Learning (PBL) activities. Unlike quantitative methods that prioritize measurement, this approach focuses on the depth and richness of description necessary to understand how perspective transformation occurs within the learning process. Understanding educational contexts in greater depth poses many challenges and requires rich details, which qualitative approaches offer (Chung & Long, 2024). Qualitative methods, as mentioned by (Arifin, (2023), delve deeply into motivations, emotions, and contexts that are typically hidden in the background when a quantitative approach is used. On the other hand, qualitative methods do come with certain limitations, chief among them the issue of generalizability and biases from the researcher's perspective (Bakare, 2024).

Participants and setting of the research were conducted at a higher education

institution that has integrated restructured PBL methodologies into its pedagogical framework. Through purposive sampling, 15 university students were selected to participate. The inclusion criteria required that students had significant experience with the inverted PBL technique, ensuring they could provide information-rich accounts of the phenomenon being studied.

Data collections procedure to capture the complexity of the participants' experiences and achieve data triangulation, three qualitative methods were utilized:

1. **Semi-Structured Interviews:** One-on-one sessions lasting 45 to 60 minutes used open-ended questions to explore individual journeys through the flipped PBL process and perceived shifts in worldview.
2. **Focus Group Discussions (FGD):** Small group dialogues (5–7 members) were facilitated to observe social learning dynamics and how peer interactions influenced personal perspective shifts.
3. **Learning Logs or Reflective Journals.** Participants were asked to submit written thoughts they had during or after PBL activities. These materials give us a long-term look at how learners' thoughts and meanings change over time. As we can see. In Figure 2, about Procedure for Collecting Data.

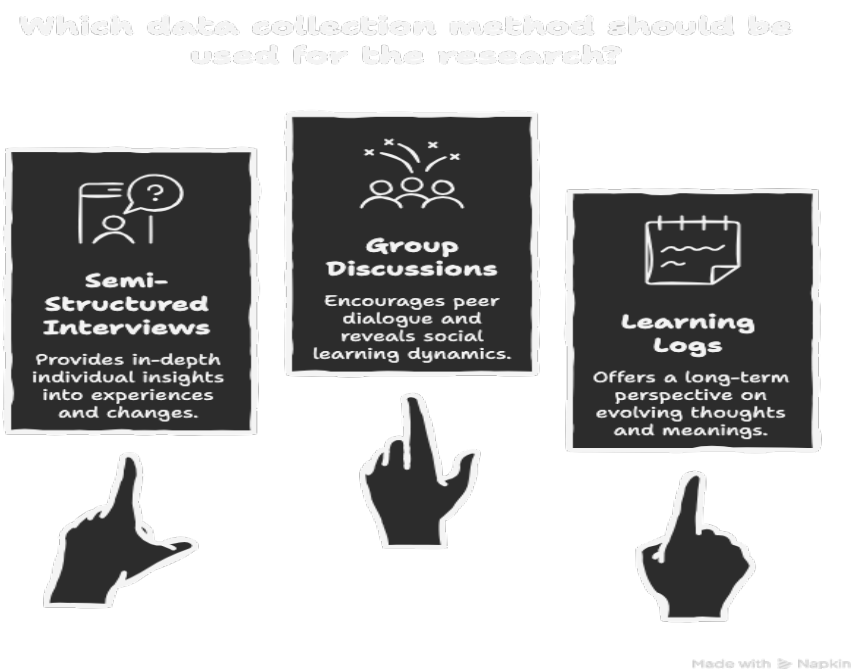


Figure 2. Procedure Collecting Data

After collecting the data, the researcher analyzes the results of the students' interviews, group discussions, and journals using thematic analysis (Braun & Clarke, 2019) by generating the initial codes and capturing meaningful features, developing potential themes. Both inductive coding (emerging directly from participants' accounts) and

deductive coding (guided by transformative learning theory and PBL literature) will be employed.

The data gathered from interviews, FGDs, and journals were analyzed using thematic analysis following the framework established by Braun and Clarke (2019). The process involved:

1. Familiarization: Immersive reading and re-reading of transcripts.
2. Coding: Applying both inductive codes (emerging from participant accounts) and deductive codes (guided by Transformative Learning theory and PBL literature).
3. Theme Development: Identifying meaningful patterns such as "disorienting dilemmas," "critical reflection," and "shifts in self-perception".
4. Refinement: Reviewing themes against the entire dataset to ensure they accurately reflected the students' experiences.

Allowing participants to articulate their opinions in their own words was intended to reveal delicate details of their experiences that standardized approaches would overlook. This was especially important in understanding the emotional and mental aspects of learning with visual media, which are usually personal and interpretive. Thematic analysis was employed in this study, a well-established qualitative data interpretation technique in educational research. The stages: data familiarization, initial coding, line-by-line thematic construction, theme revision and refinement, and final interpretation relative to the research questions were Braun and Clarke's steps as refined by Ohta et al., (2023). This systematic approach enabled the conduct of a comprehensive analysis of the data, which in turn revealed intricate and subtle patterns in the participants' responses. In the process of interpretation, the thematic patterns are linked to insights from scholarly literature to contextualize the findings with the discussions on EFL learning and the role of problem-based learning. This step was essential in focusing on the participant's lived experience within a framework of existing theories and approaches, as argued by (Oliveira & Silva, 2022) aimed at augmenting the trustworthiness and relevance of qualitative research findings.

Trustworthiness and Ethical Considerations of this research to ensure methodological rigor, the study implemented several trustworthiness strategies:

1. Credibility: Established through member checking, where participants reviewed and validated the thematic interpretations of their data.
2. Dependability and Confirmability: Maintained through a clear "audit trail" of data collection and the use of reflexivity to account for researcher subjectivity during evaluation.
3. Ethics: Written informed consent was obtained from all participants. Confidentiality was strictly maintained using pseudonyms and secure data storage.

3. Results and Discussions

Results

The data highlights how the reconceptualization of Problem-Based Learning (PBL) model catalyzes shifts in student perspectives.

3.1 Systematic Categorization of Data

The following table maps the primary themes and subthemes derived from the inductive coding of participant narratives.

Table 1. The primary themes and subthemes from the inductive coding

Core Theme	Indicators	Primary Sources
1. Disorienting Dilemmas	Initial cognitive shock; friction with open-endedness; rejection of rote-learning habits.	Interviews (P1, P5), FGD 1
2. Active Critical Reflection	Challenging internal biases; metacognitive journaling; internalizing new concepts.	Interviews (P4), FGD 2
3. Dialogic Collaboration	Navigating socio-ethical conflicts; peer-driven perspective shifts; collective inquiry.	Interviews (P1, P2), FGD 1 & 2
4. Identity Reconfiguration	Tolerance for ambiguity; growth in empathy; evolving from "student" to "thinker."	Interviews (P3, P5), FGD 2

3.2 Empirical Analysis

Theme 1: Navigating the Disorienting Dilemma

Participants consistently described an initial phase characterized by cognitive friction. The departure from traditional, solution-oriented tasks created a "productive discomfort."

<p>a. Participant A1: "Initially, I felt completely adrift. The task didn't have a roadmap or a single 'correct' destination. I kept waiting for a formula but realizing there wasn't one was the moment I actually started thinking for myself."</p> <p>b. Student A (FGD): "It felt awkward. In most classes, disorientation means you're failing, but here, the confusion felt like the actual engine of the lesson."</p>
--

Theme 2: The Role of Critical Reflection

Data suggests that the "upturned/ reconceptualization" model succeeds only when coupled with rigorous reflection, moving beyond mere task completion.

<p>a. Participant A4: "The journaling wasn't just homework; it was a mirror. It forced me to articulate <i>why</i> I held certain prejudices about the problem we were solving."</p> <p>b. Student C (FGD): "I noticed through my logs that I was trying to dominate the group to reach a quick fix. Reflection made me stop and listen to the 'messy' parts of the</p>

problem instead."

Theme 3: Transformation through Social Dialogue

The FGDs revealed that peer-to-peer interaction acted as a primary catalyst for breaking individual "habits of mind."

- a. **Student B (FGD):** "I was convinced technology was the only solution. Then, [Student A] shared the reality of rural infrastructure in her home village. My technical 'fix' suddenly felt superficial and culturally blind."
- b. **Participant A2:** "Hearing my classmates' views didn't just give me more info; it made me realize how narrow my own window of the world was."

Theme 4: Reconfiguring Learner Identity

The outcome for the 15 participants was a marked shift in their orientation toward learning and their own self-perception.

- a. **Participant A3:** "I've stopped fearing the 'unknown.' I used to want clear-cut boxes for everything. Now, I find the ambiguity of a problem more rewarding than the answer itself."
- b. **Student C (FGD):** "I don't see myself as a student just absorbing facts anymore. I feel like an active participant who is responsible for how I interpret the world."

Discussion

3.3 Advancing the reconceptualization of PBL Concept

While traditional PBL literature often prioritizes the "solution" (Chiang et al., 2023), this study argues that the process of disorientation is the most valuable educational product. By aligning PBL with Mezirow's (1991) transformative stages, our findings suggest that the pedagogical "upturn" placing transformation before solution prevents PBL from becoming a purely mechanical exercise.

3.4 Critical Engagement

Our results both support and complicate current theories. While Nguyen et al. (2023) emphasize the need for institutional support for TL, our data suggests that the facilitator's role in managing the "social space for transformation" is more critical than institutional policy. Furthermore, unlike studies that see ambiguity as a hurdle (Xu et al., 2024), our evidence suggests it is the primary driver of empathy and ethical reasoning. Participants emphasized that structured reflection activities such as journaling and facilitator led prompts were pivotal in deepening their understanding. These moments of self-examination represent what Mezirow (1997) describes as the shift from surface learning to critical reflection, where learners question the values and assumptions guiding their decisions. This finding aligns with Chiang et al. (2023), who observed that metacognitive scaffolds embedded in PBL strengthen learners' ability to reflect critically. By integrating reflection explicitly into the learning cycle, the upturned PBL approach moved beyond procedural completion of tasks and fostered deeper meaning-making.

3.5 Dialogic Collaboration and Peer Influence

The focus group talks emphasized the role of dialogue and collaboration in influencing learners' viewpoints. Students regularly acknowledged that hearing their friends' differing perspectives challenged their own views. These thoughts show how dialogic engagement acted as a catalyst for viewpoint transformation. This is consistent with Taylor and Glisczinski's (2021) discovery that dialogic conversation is essential to transformative learning. In the flipped PBL approach, group collaboration evolved into a social space for transformation, where students negotiated meaning, recognized opposing ideas, and widened their understanding.

3.6 Theoretical and Pedagogical Novelty

The scholarly contribution of this work lies in its integration of socio-emotional growth into a cognitive framework.

1. Theoretical Contribution: We propose that "upturned/ reconceptualization" PBL serves as a bridge between cognitive problem-solving and the socio-emotional "frames of reference" inherent in Transformative Learning.
2. Pedagogical Contribution: This study offers a blueprint for higher education, particularly in EFL and social science contexts, where the goal is to produce graduates who are not just technically proficient but also critically reflective and empathetic.

3.7 Global Implications and Future Directions

The shift from "learning to solve" to "learning to transform" has global implications for 21st-century education. In an era of AI and rapid social change, the ability to navigate disorienting dilemmas and engage in dialogic collaboration is more valuable than rote technical skills. Future research should explore how these upturned/reconceptualization designs scale across larger, diverse student populations.

4. Conclusion

The study concludes that the reconceptualization of the Problem-Based Learning (PBL) method provides a robust and innovative framework for fostering transformative learning in higher education. By intentionally shifting the pedagogical focus from technical task completion to the evolution of a student's worldview, the model transcends traditional procedural learning. The results indicate that the success of this approach hinges on the purposeful integration of disorienting dilemmas, structured critical reflection, and dialogic collaboration. These elements work in tandem to move students beyond rote-learning habits and toward a state of cognitive and socio-emotional growth.

Ultimately, this research demonstrates that the efficacy of PBL in driving transformation is not an accidental byproduct but the result of deliberate instructional design. For educators and institutions, the findings highlight a critical need to move away from "clean" or simplified problems in favor of ethically and socially complex challenges that trigger deep reflection. By fostering a "social space for transformation" through peer dialogue and guided inquiry, higher education can better prepare graduates to be empathetic, adaptive, and critically reflective problem-solvers capable of navigating the

multifaceted disruptions of modern society.

Conflicts of Interest

Authors declare no conflict of interest.

References

- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597. <https://doi.org/10.1080/2159676X.2019.1628806>
- Chiang, C.-H., Li, M., & Wong, A. (2023). Critical thinking-oriented problem-based learning: A systematic review of design adaptations and outcomes. *Educational Research Review*, 39, 100507. <https://doi.org/10.1016/j.edurev.2022.100507>
- de Jong, T., Lazonder, A. W., Pedaste, M., & Zacharia, Z. C. (2023). Challenges in implementing inquiry and problem-based learning in education. *Educational Psychologist*, 58(1), 1–16. <https://doi.org/10.1080/00461520.2022.2093383>
- Fidalgo-Blanco, Á., Sein-Echaluce, M. L., & García-Peñalvo, F. J. (2024). Disorienting dilemmas in interdisciplinary problem-based learning: Opportunities for transformative outcomes. *International Journal of Engineering Education*, 40(2), 215–228.
- Kitchenham, A., Gosselin, K., & MacDonald, K. (2022). Transformative learning in nursing education: A scoping review. *Nurse Education Today*, 112, 105318. <https://doi.org/10.1016/j.nedt.2022.105318>
- Kroth, M., & Cranton, P. (2022). Transformative learning theory revisited: Toward definitional clarity and expansion. *Adult Education Quarterly*, 72(4), 345–363. <https://doi.org/10.1177/07417136211073982>
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. Jossey-Bass.
- Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education*, 74, 5–12. <https://doi.org/10.1002/ace.7401>
- Nguyen, T., Chan, J., & Lee, C. (2023). Embedding transformative learning in higher education: A systematic review. *Teaching in Higher Education*. <https://doi.org/10.1080/13562517.2023.2194769>
- Taylor, E. W., & Glisczinski, D. J. (2021). The role of disorienting dilemmas in transformative learning: Insights from study abroad and service-learning. *Journal of Transformative Education*, 19(3), 198–215. <https://doi.org/10.1177/1541344621997962>
- Xu, Z., Chen, Y., & Li, Q. (2024). The effects of problem-, project-, and case-based learning on student motivation: A meta-analysis. *Frontiers in Psychology*, 15, 1378912. <https://doi.org/10.3389/fpsyg.2024.1378912>