



Promoting Pre-service Teachers' Critical Intercultural Awareness using Problem-based learning

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Abstract: Promoting ICC has been discussed widely in the EFL context as one of the goals of foreign language learning. The present study explores implementing online problem-based learning (PBL) in an EFL classroom to promote critical intercultural awareness (CIA) in a teacher education context. The participants were 40 pre-service teachers who enrolled in Intercultural communication subjects for the semester. Drawing upon the PBL approach in teaching intercultural communication, the study deployed action research (AR) where participants engaged in the four phases: planning, acting, observing, and evaluating. Data were gathered through a series of guided observations and a written interview. The findings showed that the learners' capacity to be aware of cultural differences can be promoted by incorporating problem-based learning. In this sense, the learners develop their critical thinking regarding encountering a wide range of cultural diversity to promote CIA. In addition, PBL successfully enables pre-service teachers to be critically aware of intercultural issues and make meaningful reflections on their own culture and other people's cultures. This study contributes to teacher education by preparing EFL teachers to develop one of the aspects of Intercultural Competence.

Keywords: critical intercultural awareness (CIA), intercultural communication, intercultural, problem-based learning (PBL)

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INTRODUCTION

For many years, there has been a growing body of studies on incorporating critical thinking in EFL teaching (Gómez-rodríguez, 2018; Hasnah et al., 2024; Heidari, 2020; Zhao, 2019). Critical thinking is pivotal in language teaching since it can motivate learners to be skilful and creative (Raj et al., 2022) as well as foster resilience in students to be responsive toward potential problems found in their daily lives, including in intercultural communication (Esen, 2021; Gómez-Rodríguez, 2018; Misdi & Mahaputri, 2022; Raj et al., 2022; Roofi, 2023; Susilo et al., 2019). Specifically in intercultural communication studies, language learners are reported capable of handling communication barriers, particularly in different languages and cultural diversity, due to their critical thinking skills. Incorporating critical thinking skills in intercultural communication is called critical intercultural awareness (henceforth CIA). Byram (2020), an outstanding intercultural scholar, claims that the CIA can help language learners build intercultural understanding, encourage knowledge of different perspectives, and maintain interaction with other language users. Supporting this, studies reported that due to the dynamic nature of culture overtimes, promoting the learners' CIA can be implemented through observing and comparing other cultures to then reflecting on our own culture (Fang & Elyas, 2021; López-Rocha, 2021; Mahaputri et al., 2024; Schlein, 2020; Susilo et al., 2023). Accordingly, this must affect intercultural awareness in many language education contexts where many English language teachers are non-native -English-speaking teachers with varied cultural backgrounds (Lindholm & Myles, 2019) as the context of this study. Therefore, promoting CIA becomes challenging for pre-service teachers. As part of intercultural communicative competence (ICC), the CIA has been the main discussion in the multicultural and multilingual educational context for the last decade. Following Kusumaningputri and Widodo (2018), this study defines CIA as "a set of abilities, including critical understanding, analysis, evaluation, and interpretation of sociocultural realities that facilitates effective communication between people from different cultural and linguistic backgrounds." Before this, Gay and Kirkland (2003) used the term critical cultural awareness (CCA) to refer to the practical way of improving educational outcomes for language learners in a multicultural context. Grounded in psychological and sociology aspects, CCA involves thoroughly analyzing and monitoring one's beliefs and instructional behaviour concerning the value of cultural diversity, best practices for teaching culturally and linguistically diverse students well and changing corresponding behaviour to incorporate more positive views of culturally diverse students.

However, incorporating CIA into the discussion on implementing a teaching approach, such as PBL in

language teaching practice, is rarely discussed. This is because the PBL approach has been extensively used in higher education across multidiscipline and professional areas, such as the medical field, for decades. Historically, PBL was introduced by Protagoras and Aristoteles as the alternative pedagogical approach. This approach was first implemented as the pedagogical approach in 1969 at the School of Medicine, McMaster University (Koh & Tan, 2016). Specifically, in the language teaching context, previous studies have shown its significance, such as in promoting students' autonomous learning, lifelong learning, problem-solving, practical thinking, innovation, collaboration, and communication (Al-Busaidi et al., 2021; Aslan, 2021; Hursen, 2021; Seibert, 2021; Tan et al., 2020; Tang et al., 2020).

In this regard, the implementation of PBL should meet the principles of designing learning experiences, including guiding and supporting learners to actively construct their learning instead of providing information to passive receivers, allowing learners to take the lead, and scaffolding by observing, noticing, reflecting, and responding, personalizing learning, connect with learners' styles and creativity, and provide opportunities for extension, allowing learners to work in multiple directions, guiding students through questioning and implementing multifaceted assessment through meaningful, 'connected' contexts throughout a program. Many pieces of research have investigated the cycle in PBL and showed that the process commonly begins with a question followed by investigative solutions, creating new knowledge as information is gathered and understood, discussing discoveries and experiences, and reflecting on new knowledge. In terms of Assessment PBL, Aslan (2021) argues that it is complex and requires teachers to make a professional judgment based on multiple sources of evidence derived from their observations of students' learning, acquisition of skills, engagement in collaborative learning, and self-directed learning as well as information from the self-and peer-evaluations and reflection journals. However, problem familiarity is still argued, as Yew and Goh (2016) claimed that problem familiarity was correlated with students' learning outcomes. Regarding this, as the CIA is related to critical thinking, Sobkowiak (2016) suggested the topics and activities that can be maximized concerning one's daily life. Hence, the topic of intercultural misunderstanding was chosen to be implemented in this study.

To begin the activity in PBL, a small group of students analyzed a problem, identified relevant facts, and applied existing knowledge and experiences to solve a problem. In this regard, for the students to truly benefit from PBL, teamwork is crucial in achieving the goal of PBL learning since it plays a role in scaffolding. The students cannot successfully learn using PBL unless they collaborate with their peers effectively (Buheji & Buheji, 2020; Ceker & Ozdamli, 2016; De Graaff & Kolmos, 2003) to implement the PBL, the students form groups after finding problems in case scenarios and work together to find relevant materials. The students expressed their opinions during discussions and strived to solve the disputed questions (Misdi & Mahaputri, 2022). Even though many works of literature contain valuable epistemological studies to support the application of PBL, few illustrate how the process can be incorporated successfully into action research to promote CIA. For this reason, the present study aims to fill this empirical gap by discussing the specific instructional design of the PBL strategy and the practical suggestion to promote pre-service teachers' CIA. This study explored how Zoom meetings and Schoology as a learning management system mediated the classroom action research incorporation cycle during the online intercultural communication course. This study is conducted to address the two research questions.

- 1) How do pre-service teachers experience the PBL approach to promote critical intercultural awareness in CAR?
- 2) How does the PBL approach incorporate to promote critical intercultural awareness?

METHODS

This study specifically adopted practical action research concepts of "researchers as practitioners" (Burns, 2005) since the author aimed to overcome the problems faced in her class. The study took place in a private university in West Java, Indonesia. The two intercultural communication classes were conducted online, mediated by Zoom meetings and Schoology as a learning management system (LMS). In this way, all the data from the participants were collected in that LMS. Burns (2010) defined action research as 'taking a self-reflective, critical and systematic approach to explore your teaching contexts.' Regarding this, the four phases of action research proposed by (Kemmis et al., 2014), namely Planning, Acting, Observing, and Evaluating, were followed to depict the findings. The following section describes the data collection technique, participants, and research procedures used in this study. The data was gathered from the whole process of PBL learning, including instruction for the students to do the task; the proposed problem is a problematic workplace scenario in the form of an online video taken from YouTube with the topic of intercultural misunderstanding in a workplace context. The learners were asked to watch the video, discuss the scenario, and work out the solutions to the problem in pairs for 20 minutes. Afterwards, they shared the solutions with other friends.

The prompts were adapted from the research conducted by Tran et al. (2020) with three indicators: (1) learners' understanding of the scenario (scenario understanding); (2) learners' understanding of the miscommunicated points in the scenario (miscommunication understanding); (3) learners' critical awareness of effective communication in different cultural dimensions (Byram's model of ICC). Those indicators were broken

down into four questions to ponder and constructed to perceive the learners' intercultural awareness based on Byram's (2020) discussion parameter. At the time of the project, 40 undergraduate students participated voluntarily during the course in one semester. The students ranged in age from around 20 to late 23, and many are considered bilingual since they speak both their native language and Bahasa Indonesian. In contrast, until now, English has still been considered a foreign language in Indonesia. As part of the Intercultural communication course, one of the study objectives is to build intercultural awareness. The research procedure followed the action research phases, namely Planning, Acting, Observing, and Evaluating, in a weekly spiral process. The researcher interacts with the participants as their lecturer and continually reflects on and updates the planning for the next cycle(s).

The procedure demonstrates how the present study implemented the spiral process, which is divided into four phases: planning, observation, action, and reflection. The first phase, planning, consists of four steps: 1) Designing a lesson plan based on the principles of PBL. 2) Design a practical problem to promote learners' intercultural awareness related to the learners' real world 3) Identify what learners do know 4) Identify required knowledge by giving appropriate prompts. In the second phase, observation, the learners were divided into groups consisting of four or five. They discussed the problem shown in the video: intercultural misunderstanding/miscommunication. All conversations in the discussion were recorded and reviewed. The discussion covered four questions: 1) What do you think of 'workplace talk'? 2) Why do people in different cultures misunderstand each other? 3) Why is it hard to teach culture? and 4) Why would intercultural communication be more complex than communication between people from the same culture? The last phase was evaluation (reflection). In this phase, the learners did some activities such as reviewing their fund of knowledge in terms of the cultural dimension, analyzing the trigger of the problem and finding the solution, evaluating the problem and the proposed solution, and assessing the validity and reliability of the information. In the last phase, reflection, the learners reflected on multiple perspectives and then compared their beliefs and fund of knowledge to the others. While they shared their solutions with others, the lecturer assessed using the rubric interrelated with the intercultural awareness parameter from Byram (1997). Since the present study investigated the extent to which the PBL strategy can be implemented to promote critical cultural awareness that was incorporated in CAR, thus the instructional design implemented was based on the principles of PBL as in the following table:

Table 1. Learning matrix of PBL

Learning objectives	Phases	Learners' activity	Teachers' activity
The learners can evaluate critically and based on explicit criteria, perspectives, practices, and products in our own and other cultures and countries (Byram, 1997)	<i>Developing problem</i>	Identifying the misunderstanding/miscommunication issue.	Designing the problem of intercultural misunderstanding in the workplace context that possibly happened in real life so that the learners can evaluate critically and find the solution.
	<i>Activating existing knowledge</i>	Recognizing the prior knowledge related to cultural dimensions.	Explaining various cultural dimensions that may contribute to intercultural miscommunication/misunderstanding.
	<i>Identifying required knowledge</i>		The prompts were given as questions to ponder by deliberating the difficulty level at which the students uncovered the issue and showed awareness of intercultural communication.
	<i>Researching</i>	Watching the video of intercultural misunderstanding/miscommunication on YouTube or any other digital resources they were searching for themselves.	Observing the students' activity and preparing for the assessment rubric.
	<i>Critically analyzing</i>	Analyzing the video and identifying the causes of the problem.	Guiding and supporting learners to actively construct their learning instead of providing information to passive receivers.
	<i>Comparing and reflecting</i>	Comparing the cultural differences among the speakers in terms of cultural dimensions and reflecting on their identity	Guiding learners through questioning.

<i>Sharing solutions</i>	Presenting the result of their discussion and sharing solutions.	Allowing learners to take the lead and scaffold by observing, noticing, reflecting, and responding.
<i>Assessing</i>	Getting the feedback	Implementing multifaceted assessment.

The quality of CAR as qualitative research is measured against the notion of trustworthiness (Banegas & Consoli, 2021) concerning credibility, dependability, and confirmability. The data of each participant were drawn carefully to gain credibility. Furthermore, the authors shared the findings with my students throughout the semester. In this sense, they are free to agree or disagree with my interpretation of the data. They were also allowed to add or reduce the interpretation according to their insight. To be dependable, all the participants' data were kept safely in Schoology as the learning platform in which the access code was only known by me, my students, and the participants. Further, confirmability is defined as the influence of the researcher's subjectivity over the research, which consists of privileging the participants' meanings. Since there was a power relationship between the lecturer and the student teachers, the impact of the authors' insight toward interpreting the data could not be avoided. With this in mind, the authors made critical reflexive efforts to bracket my assumptions and beliefs before designing the study and throughout, as adopted from Banegas and Consoli (2021).

RESULT AND DISCUSSION

RQ 1: How do pre-service teachers experience the PBL approach to promote critical intercultural awareness in CAR?

During one semester study period, the Intercultural communication course was conducted once a week for 14 meetings. As situated learning was based on PBL principles, the lesson begins with a question followed by investigative solutions, creating new knowledge as information is gathered and understood, discussing discoveries and experiences, and reflecting on new-found knowledge. Aslan (2021) argued that PBL is an instructional approach that engages students in solving real-world problems, typically within a collaborative and inquiry-based framework. Therefore, in this study, PBL was used as a powerful tool for promoting CIA, and the learners' CIA was analyzed using Byram's ICC model (1997; 2020). The following describes what the participants experienced. Identifying and interpreting the cultural values explicitly shown in the video. At first, the learners built their engagement with real-world issues presented with authentic, complex problems related to cultural diversity and intercultural interactions in educational settings. In this regard, the learners developed the problem of cultural misunderstanding that happened in the context and identified the cultural orientations to which the interlocutors in the video belong as they observed both verbal and nonverbal communication shown in the video. In this sense, the learners activated their prior knowledge of cultural orientation. They classified the country(s) into high/low context, collectivism/individualism, and east/west orientation (Hofstede, 2011). In a collaborative learning environment (De Graaff & Kolmos, 2003; Othman & Shah, 2013; Savery, 2006), PBL fosters collaboration among the participants as they work together to analyze, discuss, and propose solutions to the identified problem. This collaborative learning environment encourages the exchange of diverse perspectives and experiences related to cultural diversity, promoting understanding and empathy among participants and the people in the video. The following table shows that in the video that the learners of the first group observed, they were able to identify the intercultural misunderstanding in a workplace context as well as the trigger that causes the problems as the following:

Table 2. Identifying the problem

Timestamp 0:19 Dramatic background music plays when they shake hands.
That is because the Chinese may nod or bow instead of shaking hands.



Timestamp 0:47 HRD from China: "Yes, we consider that the best is to work from 9 am until 9 pm, six days a week." HRD from Spain: "But are you sure this is legal?" HRD from Spain was shocked because working for 12 hours is very unusual in Spain. The Chinese HRD then explained that this is so common in the labor market in China, and they believe this is the best way to maximize productivity. However, Spanish HRD disagreed because, in Spain, the efficient time to work is 8 hours, five days a week.

Analysis

A. Source : <https://youtu.be/8am6mKt8c>
B. Context : English as global language
C. Characters' Nationality : China, Spain
D. Communication:
Verbal : Mostly English
Non-Verbal : The Spanish shake hands during greetings
E. Cultural Dimensions :
High Context : China, Spain
Low Context : -
Eastern : China
Western : Spain
Individualistic : Spain
Collectivistic : China



Regarding the problem that arises from intercultural misunderstanding/miscommunication, it is essential to see that in Table 2, the learners can identify and provide real-life analogies related to the context of the situation. In this sense, the learners argue that the failure of one to interpret and relate cultural differences in intercultural encounters leads to misunderstanding/miscommunication. Even more, in the broad discussion of English as a global language used by many people worldwide, the learners can contextualize the problem by looking inside Indonesia as their home country. In the phase of sharing solutions, group 1 explains the following as their identification as well the interpretation of the aspect of cultural differences.

People tend to view things from their culture, so misunderstandings often occur. For example, in Indonesia, Maduranese usually have high intonation when they talk to Bandung people who are used to using Sundanese with soft intonation; the Madurese will sound angry and rude when speaking. Even though it was normal for them, speaking softly was considered unusual. (excerpt1)

In addition, the learners also identified another factor that influenced the difficulty in teaching culture, such as the teacher's competency in teaching intercultural communication. They identified that due to the challenge in teaching culture, the teachers' cultural background would influence the way he/she perceives the intercultural encounter to be taught to the learners.

Several factors make it difficult to teach culture, including the beliefs and attitudes of the instructor and the lack of professional development opportunities in learning strategies about teaching culture in the classroom; therefore, why teaching culture is challenging. Then apart from these, several factors make teaching culture difficult. It is not easy to include cultural teaching to the specified target, but culture is the characteristic and habit of a group. Therefore, it is tough to teach culture. (excerpt2)

In this sense, the author suggests that teaching culture should not be separated from teaching the target language. In PBL, the learners learned about cultural differences; at the same time, they communicated some cultural issues they found in a real-life situation. Furthermore, PBL encourages pre-service teachers to reflect on their cultural identities, biases, and assumptions and how these factors influence their teaching practices. Through reflective activities embedded within the PBL process, pre-service teachers gain insights into their cultural perspectives and develop a greater awareness of their future students' cultural backgrounds and needs. Therefore, teachers who teach intercultural communication can incorporate PBL as an appropriate learning strategy to encourage learners to communicate with people whose cultures are different. Learners discuss this together to discover why people in different cultures misunderstand each other. It was found that in the inquiry process, the learners can explore some reasons, such as language problems, different ways of communicating, and different orientation values between individuals with different cultural backgrounds. Furthermore, they also gave additional comments as the following:

Misunderstanding in intercultural communication can also begin with a person's attitude and behaviour when carrying out intercultural communication while still guided by the prevailing norms in Indonesia in their own culture. (excerpt3)

In terms of teaching, learners perceive that it is challenging to teach culture not only because culture is a part of identity but also because teachers' cultural background influences the development of intercultural understanding.

... the beliefs and attitudes of the instructor and the lack of professional development opportunities in learning strategies about teaching culture in the classroom. (excerpt4)

As a result, the learners found that teaching culture is complex for several reasons, namely, the habits of different people that are different have triggered them to get used to the culture or customs of other regions. Not everyone can accept the new culture because they love the culture of their respective region and the influence of teachers' cultural backgrounds. Since the present study is PBL-driven intercultural awareness, the findings revealed that at the end of the activity, the learners proposed some solutions to avoid misunderstanding/miscommunication, such as 1) Do not jump to conclusions or make judgments; 2) give everyone time to speak; 3) prioritize transparent communication; 4) recognize differences in culture, activities, needs, and habits and 4) understand the various cultures in both visible and invisible forms. Regarding the proposed solutions, the learners had a dynamic discussion to share the solutions and get questions and feedback from the teacher and other students. In this sense, the lecturer is pivotal as a facilitator rather than the teacher. Besides, the characteristics of PBL, such as the student centre, were reflected a lot. This aligns with Byram's

(2012) suggestion that learners can interrogate and interpret texts and documents critically to understand other cultures.

RQ 2: How did the PBL approach incorporate to promote critical intercultural awareness?

In order to attempt this research question, the author reflected on the basic principles and the critical features of PBL in a language teaching context. Savin-Baden (2003) argues that one of the teachers' objectives in implementing the PBL strategy is to develop their students' criticality and emotional, intellectual, and practical independence. Regarding this, to illustrate the integration of PBL strategy in CAR activity that effectively promotes learners' critical awareness, see Table 3 below:

Table 3. PBL stages to promote intercultural awareness

PBL critical stages	Issues	Prompts
Planning	Scenario understanding	Instructional design of using PBL
Preparation and	Intercultural	Questions to ponder: 1) What do you
Implementation	miscommunication/misunderstanding	think about workplace talk
Evaluation	learners' critical awareness of	Question to ponder: 1) Why do people in
	effective communication in different	different cultures misunderstand each
	cultural dimensions	other? 2) why is culture complex to be
		taught? 3) Why would communicating
		with different cultures be more complex
		than communicating with the same
		culture?

Considering that the present study focuses on implementing PBL to promote critical cultural awareness, the critical stages in PBL, including planning, preparation, implementation, and evaluation, were investigated to find the effect of the process in achieving the learning objectives. After two cycles of CAR, the study revealed that the interconnectedness of these stages in the CAR successfully promoted learners' critical cultural awareness. Firstly, in the planning phase, the lecturer carefully made a learning design to achieve the evaluative learning goal focusing on intercultural awareness. The design of the instruction was made in line with the PBL principles for two cycles of CAR. This phase was also designed to determine if the learners can understand the scenario of cultural misunderstanding/miscommunication as they build their prior knowledge of cultural orientation. Also, they identified the problems and thought about the possible solution. More importantly, this phase of PBL provided pre-service teachers with authentic, real-world problems that relate to cultural diversity and intercultural interactions in educational settings. These problems are often complex and multifaceted, requiring students to consider various cultural perspectives and factors when seeking solutions. Engaging with these authentic contexts immersed them in situations where they had to navigate intercultural dynamics, fostering awareness and understanding.

Secondly, in the preparation and implementation phases, the lecturer observed the learners' understanding of the miscommunication points in the scenario. After the learners had related their prior knowledge about cultural orientations, they identified and classified the countries based on their cultural values into eastern/western, low/high context, and individual/collectivist orientations. Furthermore, in this phase of PBL, the participants were encouraged to collaborate in groups as they could feel how to work with an individual with a different cultural background. Students in small groups or teams share their perspectives, knowledge, and experiences related to the problem. Through collaborative learning, pre-service teachers gain exposure to different cultural viewpoints, learn to communicate across cultural differences and develop empathy for others' experiences. More importantly, PBL promoted inquiry-based learning, where the participants actively seek out information, analyze data, and conduct research to understand the cultural dimensions of the problem they are addressing. This inquiry process encourages critical thinking and reflection on cultural assumptions, biases, and stereotypes. Hence, they learn to question dominant narratives and explore alternative perspectives, deepening their intercultural awareness.

Thirdly, in the evaluation phase, the learners evaluated the factors that lead to intercultural misunderstanding/miscommunication. Ultimately, they can promote cultural awareness since they critically propose solutions to resolve intercultural miscommunication/misunderstanding. Following this, scaffolding and PBL critical stages helped learners construct their cultural awareness more critically, considering the study inquiry learning. From the perspective of the PBL strategy, one must follow step-by-step learning progress. This finding was in line with the studies that recommend PBL as an effective strategy to develop students' problem-solving skills and collaborative learning as one of the principles of PBL. Thus, this is widely accepted as more beneficial than individual learning. In this way, PBL incorporated opportunities for pre-service teachers to engage in reflection and self-assessment throughout the learning process. The participants critically examine their

cultural identities, beliefs, and biases through reflective activities, group discussions, or peer feedback. They consider how these factors shape their perceptions and interactions with others, leading to greater self-awareness and sensitivity to cultural differences. Finally, as part of classroom action research, pre-service teachers apply their learning from the PBL experience to design and implement culturally responsive teaching strategies in natural classroom settings. They have the opportunity to observe the impact of these strategies on student learning outcomes and reflect on their effectiveness in promoting intercultural awareness and understanding among their students. Therefore, by incorporating these elements, the PBL approach provides pre-service teachers with a comprehensive framework for developing critical intercultural awareness. Through authentic problem-solving, collaborative learning, inquiry-based exploration, reflection, and practical application, pre-service teachers gain the knowledge, skills, and dispositions to navigate diverse cultural contexts with sensitivity, empathy, and respect.

CONCLUSION

According to the findings, promoting pre-service teachers' CIA through PBL is strongly recommended. Culture should be incorporated into language teaching, especially in the EFL context, so pre-service teachers can clarify their beliefs about stereotyping, wrong judgment, prejudice, and egocentrism that lead to intercultural miscommunication/misunderstanding. Through the learning experience of PBL, critical intercultural awareness can be inserted into language teaching that enables the learners to clarify their ideological perspective and engage with others consciously from that perspective. Through PBL, pre-service teachers, as the participants of this study, engage in inquiry-based learning, actively seeking out information, critically evaluating different perspectives, and applying their understanding to solve the problem. This process encourages them to question assumptions, challenge stereotypes, and develop a deeper understanding of cultural diversity and its implications for teaching and learning. Accordingly, this approach provides pre-service teachers with a dynamic and experiential learning environment to develop the knowledge, skills, and dispositions needed to promote critical intercultural awareness in future classrooms. Furthermore, by engaging in collaborative inquiry, critical reflection, and real-world application, pre-service teachers are better equipped to create inclusive learning environments where they feel valued and respected, regardless of their cultural backgrounds. However, since various models of PBL are further used in medical education, language teachers/practitioners who conduct PBL strategies in their teaching practice should consider its effectiveness cautiously. Hence, integrating PBL in CAR may be more deliberated since this method is carefully designed in several phases within the cycle.

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