

Understanding Collective and Reflective Learning-Oriented Assessment among Iranian EFL Pre-service Teachers in Learner-Centered Language Teacher Education

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ABSTRACT

Although researchers have used practical procedures for developing professional teacher education, such as reflective practice and action research, the role of learning-oriented assessment (LOA) in building an active learner-centered pre-service teacher education has received scarce scholarly attention. Hence, the purpose of this study is to explore how collective and reflective LOA can enhance EFL pre-service teachers' learner-centered teacher education. For this purpose, 15 Iranian EFL pre-service teachers were selected through a convenience sampling procedure from a teacher-training college in Iran. The study was built on a qualitative intrinsic case study, the data were collected from the participants through observations, self- and peer-assessment practices, portfolios, and semi-structured interviews, and the collected data were inductively analyzed. The results of the inductive thematic analysis indicated that pre-service teachers became active, cooperative, and flexible. Firstly, pre-service teachers concentrated on reflective self-assessment, collaborative peer-assessment, and portfolios. Secondly, pre-service teachers were more self-directed and autonomous by taking more actions, planning their development, making decisions, and learning. Thirdly, pre-service teachers accelerated their positive emotions, such as growth mindset, flexibility, curiosity, and criticality. The findings promise implications for implementing learning-oriented assessment to promote teachers' agency and autonomy in their teaching careers.

1. Introduction

Currently, teacher education is shifting towards making pre-service teachers active agents in their future teaching careers and creating experience-based, authentic, and meaningful situations to practice teaching (Wiese et al., 2024). Such situations help pre-service teachers learn how to make their classes more authentic, their students more active, and their teaching more effective when they become full-time teachers. Hence, pre-service teachers, who make decisions, choose content, reflect cognitively, and collaborate with their peers actively (Joel, 2006), can experience a learner-centered pre-service teacher education process by focusing on interactivity, reflectivity, and assessment.

Following a learner-centered pre-service teacher education process can make pre-service teachers construct meanings, concepts, and understanding through personal reflection and

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experimentation in a cultural and educational setting (Yang & May, 2023). In this way, pre-service teachers can participate actively in meaningful activities to experience self-directed evaluation, achieve autonomy, and acquire deeper cognitive and affective knowledge (Candel et al., 2024). Additionally, pre-service teachers can practice self-regulated learning strategies in an authentic context to learn meaningfully, constructively, and cooperatively to enhance their control over their learning, emotions, and cognition (Herrington, 2005). Although researchers have found some tools for developing effective teacher education, such as reflective practice, action research, and cooperative learning (Wylie & Lyon, 2013), the role of learning-oriented assessment (LOA) in creating learner-centered pre-service teacher education has received scarce scholarly attention (Yang & May, 2023).

LOA can be used to integrate teaching, learning, and assessment as an integral constituent of education (Xiao & Yang, 2019) because it is a form of alternative, feedback-oriented, authentic, and performance-based assessment. Additionally, it can be used to enhance process-based learning (Fazel & Ali, 2022), connect assessment and learning (Carless, 2007), foster self- and peer- assessment, initiate project-based learning, and synergize both formative and summative assessment (Jones & Saville, 2016; Villarroel et al., 2024). Furthermore, LOA can make learning cyclical and engage teachers and students actively in a dynamic manner (Hamp-Lyons, 2017). Accordingly, LOA is regarded as a self-regulated learning process that can and autonomous learning (Butler & Lee, 2010). Hence, LOA can accelerate collaboration, engagement, and reflection in integrated teaching, learning, and assessment practices. Furthermore, LOA can make pre-service teachers more adaptable and flexible, enable them to monitor their performance and modify foster continuous their practices, lower their anxiety, and accelerate their growth mindset (Sitta et al., 2023). In the current study, three crucial theoretical components are introduced and maintained: (a) assessment tasks as learning tools, (b) student involvement in self- and peer-assessments, and (c) feedback as feedforward (Carless, 2007). Assessment tasks that are practical, authentic, and meaningful can engage pre-service teachers actively and whole-heartedly to take actions, observe practices, and reflect with other peers collectively and receive constructive feedback from their peers (Matsumoto-Royo et al., 2022).

As Keppell and Carless (2006) have argued, engaging teachers in alternative assessment approaches can be so effective that they are most likely to experience progressive assessment practices for learning purposes. Likewise, not only do pre-service teachers enjoy first-hand benefits from this learner-centered approach to their teacher education training, but they can also enhance their LOA literacy concurrently and adopt this approach in their future teaching. While extensive research has been done to investigate how LOA enhances students' language proficiency (Hamp-Lyons, 2017; Zhao & Qi, 2023), fosters positive attitudes among L2 learners (Farhady, 2021), and promotes EFL teachers' assessment literacy, among many others, the role of LOA in promoting pre-service teachers' learning, teaching, and development in teacher education programs is still unknown. Moreover, collective and reflective LOA, using LOA more reflectively and collaboratively with others, can be another novel approach by implementing reflective and collaborative practices, such as self- and peer-assessment, and portfolios during teacher education (Yildirim et al., 2024).

This study prioritizes pre-service teachers' evolving needs through engagement, autonomy, and reflective practice. By including collective and reflective LOA, student teachers can better facilitate the learner-centered paradigms, ultimately fostering their pedagogical effectiveness (Hoidn & Reusser, 2020). Collective LOA encourages collaboration and peer interaction, which are essential for developing scaffolding and feedback. This mode of assessment boosts a supportive learning community, enabling pre-service teachers to model and implement cooperative learning strategies in their future classrooms (Zeng et al., 2018). Additionally, it improves the development of critical thinking and problem-solving skills as learners work together to assess and foster their teaching competence. Reflective LOA equips teachers with tools to involve in continuous self-evaluation and professional growth. Reflection is a key component of teacher education, as it helps prospective teachers to critically evaluate their own teaching practices, identify areas for growth, and modify their strategies to satisfy their needs. Reflective assessment enables pre-service teachers to develop a mindset of continuous learning and adaptability, both of which are key aspects in the constantly growing field of education. Moreover, this study contributes to the theoretical and practical understanding of assessment in EFL contexts. By exploring the intersection of collective and reflective practices, offering valuable insights into how these approaches can be effectively integrated into teacher education programs. In

addition to enabling pre-service teachers with the essential skills for classroom challenges, this integration also conforms to worldwide educational trends that highlight the significance of formative assessment and feedback (Ünal et al., 2024). Thus, the purpose of this study was to explore how collective and reflective LOA may enhance the practicality of EFL pre-service teachers' learner-centered teacher education.

2. Literature Review

2.1. Learner-Centered Pre-service Teacher Education

Traditional assessment methods often render students as passive recipients of knowledge. In contrast, more recent attention actively engages pre-service teachers in the learning process, making assessment an integral part of their educational journey. This active involvement enhances motivation and engagement, leading to better learning outcomes (Endale et al., 2024; Karlen et al., 2024). Learner-centered education is an instructional method that focuses on the needs, interests, and styles of learners. In the context of pre-service teacher education, this approach aims to prepare future teachers to create and sustain student-centered learning environments in their own classrooms. Enhancing learner-centered pre-service teacher education involves implementing teaching strategies, assessment methods, and support system that foster active learning, critical thinking and reflective practice (Candel et al., 2024).

As Felder and Brent (1996) noted, learner-centered pre-service teacher education is “a broad teaching approach that includes substituting active learning for lectures, holding students responsible for their learning, and using self-paced and cooperative (team-based) learning” (p. 43). Thus, learner-centered pre-service teacher education needs to be more active, reflective, collaborative, self-directed, and team-based. Learner-centered pre-service teachers' learning can be supported by socio-constructivism (Vygotsky, 1978). Pre-service teachers can reinforce meaningful learning by collaboratively constructing knowledge with real-world tasks and enhancing cognitive understanding and affective emotions through reflective and collective attempts in a community of practice. These features enhance students' autonomy, self-directedness, and self-evaluation in a friendly and safe environment (Jacobs & Renandya, 2019). Furthermore, according to the socio-cultural theory, social interaction can be implemented for learning purposes, along with using mediatory tools to foster cognitive development to reach a specific objective in a cultural setting. Therefore, pre-service teachers in learner-centered pre-service teacher education can construct knowledge reflectively and interact with their peers and others to build awareness and knowledge collectively (Bruning et al., 2011).

These theories paved the way for learner-centered pre-service teachers' learning to make pre-service teachers more responsible, autonomous, self-regulated, and collaborative by making decisions, regulating aims, reflecting on practices, and cooperating with others. Pre-service teachers can negotiate the syllabus, implement co-teaching strategies, and conduct self- and peer-assessments to enhance their agency in teacher education programs. According to Renandya and Widodo (2016), EFL pre-service teachers can work in a collective learning context with other peers, gaining autonomy to enhance their continuous professional development. Moreover, they can understand the link between theories and practices, meet the needs of a shared group, and possess thinking skills such as applying, elaborating, expanding, analyzing, and synthesizing (Yuan et al., 2023). Alternative assessment approaches were regarded as crucial techniques to enhance reflection and cooperation of learner-centered pre-service teacher education by incorporating self-, peer-, and portfolio assessments (Ng, 2016). Therefore, teacher educators may adopt LOA as an alternative assessment procedure to use assessment tasks as learning tools, involve pre-service teachers with self- and peer assessments, and use feedback as feedforward (Keppell & Carless, 2006). Viewed from this point of view, assessment for pre-service teachers becomes more performance-based, formative, and feedback-oriented.

Pre-service teachers can use self-assessment (evaluation of their own performance) to observe their own practices and knowledge based on some established criteria, or checklists. The teachers implement self-assessment by observing and recording their own practices autonomously, reflecting on their experiences individually, recognizing their weak and strong abilities (Güngör & Güngör, 2024). To conduct peer-assessment (the appraisal of their peers' abilities), pre-service teachers are introduced to the standards and criteria, develop a shared checklist, align with objectives, provide constructive feedback, reflect on peers' practices, and make overall evaluations (Ratminingsih et al., 2017). Lastly,

in order to conduct portfolios (purposeful collection of teachers' reflective practices), the teachers can document their experiences through observations, discussions, and reflections, and gather artifacts and evidence from lesson plan, teaching tasks and materials, assessment practices, classroom management, and feedback (Lam, 2024).

There are, however, some challenges as pre-service teachers may be resistant to change and afraid of uncertainty (Carless, 2007). The resources, literacies, and foundations may be limited regarding time and effort, professional training, and technology (Boud & Molloy, 2013). Teachers have identified several obstacles to implementing LOA, including time constraints, large class sizes, and a lack of teacher knowledge and training. According to a study by Jalilzadeh and Coombe (2023), these obstacles can be categorized as teacher-related (e.g., a lack of knowledge about LOA practices), learner-related (e.g., as learners' reluctance to engage in learning), and institute-related constraints (e.g., an emphasis on summative assessment by the institute).

Empirical research on learner-centered pre-service teacher education has increased in recent years, but the findings of some of the most recent studies are summarized in these two paragraphs. Demirci-Ünal et al. (2024) found that pre-service teachers' lesson plans, self-assessments, and final assessments all determined the effectiveness of the learner-centered teacher education. Engaging pre-service early childhood teachers in the curriculum development process not only made them active contributors but also helped them understand the value of their input. Furthermore, including in making lesson plans and obtaining individual feedback was found to enhance the quality of pre-service teachers' lesson planning.

In another study, Demir (2024) probed 67 pre-service teachers through an open-ended questionnaire within a phenomenology design and revealed that pre-service teachers believe that student-centered teaching boosts their professional development, fosters their teaching effectiveness, and equips them with critical skills. Moreover, they could develop and enhance their emotional intelligence and hone their professional abilities. Nevertheless, pre-service teachers encounter challenges such as uncertainty, anxiety, insufficient self-assurance and knowledge, and lack of experience. After investigating 67 teacher students in three cohorts across two academic years, Huang et al. (2023) discovered that pre-service teachers utilizing e-portfolios were able to exchange experiences and practices with their peers, thereby creating a sense of community and promoting peer learning. Furthermore, e-portfolios enhance reflective learning by empowering students to record their learning experiences, engaging in self-directed learning, possessing feedback from their peers, and increasing their motivation for active learning.

2.2. Collective and Reflective LOA

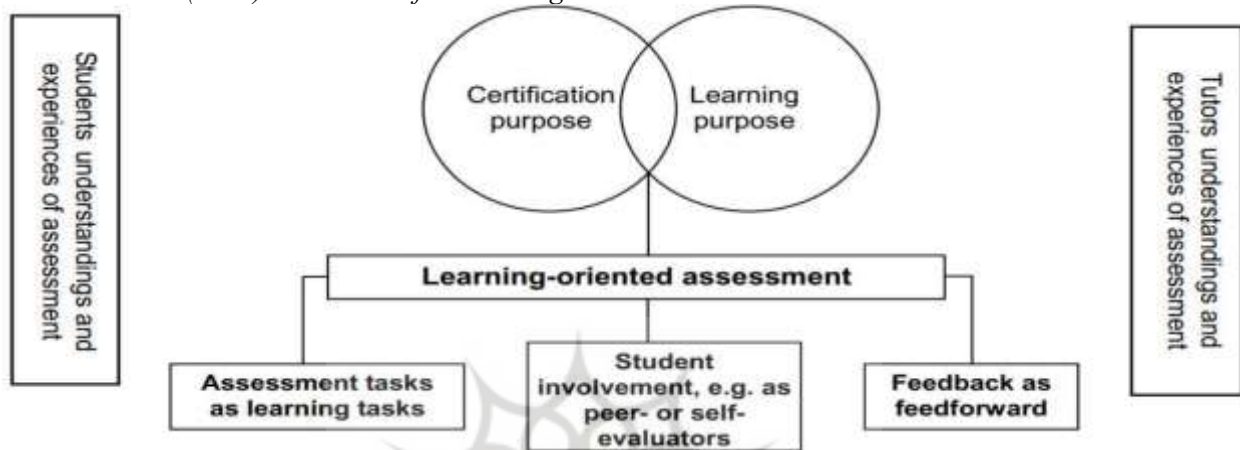
Pre-service teachers can use LOA, as a recently proposed mode of alternative assessment, to foster equitable learning, receive continuous feedback, connect and integrate learning, instruction, and assessment, and focus on the quality of learning. Moreover, it can be used to involve multiple intelligences, preferred learning styles, interaction with others in a cooperative learning environment, and increase higher-order thinking skills (Er & Farhady, 2023; Farhady, 2021), which are crucial features in making teacher education a learner-centered learning environment. Theoretically, LOA has emerged from various theories (Carless, 2007), such as social constructivism (Vygotsky, 1978), which posits that reality is constructed in the mind of participants in a social community through social interactions, given that participants can scaffold peers' learning using the zone of proximal development (ZPD) via interacting, collaborating, and negotiating (Dang et al., 2013). Thus, LOA can support pre-service teachers' assessment practices (Jones & Saville, 2016), add criticality to their assessment (López-Hernández et al., 2023; Purpura, 2016), and consider their cognitive resources and needs. In addition, LOA supports post-method pedagogy, proposed by Kumaravadivelu (2006), as it is intended to develop pre-service teachers' autonomous learning, foster self-directed learning, manage their cognitive load, and increase collaborative learning with mutual support (Babik et al., 2024; Keppell et al., 2006).

LOA can situate learning and assimilate assessment and learning by focusing on learning during assessment practices, enlightening educational decisions subsequently (Ploegh, 2009), and can be combined with both summative and formative assessment practices (Carless et al., 2006). As Carless et al. noted (2006), LOA helps pre-service teachers (a) develop learning, (b) promote active engagement

of pre-service teachers in self- and peer-assessments to evaluate their own and others' performance, and (c) receive timely and effective feedback from own reflections and others' support (see Figure 1). Hence, pre-service teachers can develop reflectively by becoming autonomous self-assessors and collectively by conducting cooperative-learning formative assessment practices (Gao, 2017). Furthermore, two critical components can improve LOA practices: teacher questioning through reflective practices by self-assessment and scaffolding of performance by collaborating with others through peer-assessment (Shepard, 2005).

Figure 1

Carless et al.'s (2006) Framework for Learning-Oriented Assessment



As seen in Figure 1, the first point is the use of real-world, authentic tasks that engage pre-service teachers in their teacher education process. These tasks should be built on performance in reality and include complexity and unpredictability to support learning how to teach practically in the future (Carless et al., 2006). Another critical factor that can improve pre-service teachers' engagement with LOA can be self- and peer-assessment. When pre-service teachers are familiarized with criteria and observe performance samples shared by teacher educators and others, they can reflect on their performance, connect standards and present performance, and enhance their motivation as they know what actions to take. Accordingly, pre-service teachers can recognize how to implement LOA criteria to receive feedback through peer-assessments (Khalili et al. 2024; Ma, 2023; Namaziandost et al., 2024).

Feedback and feedforward are the other positive features of collective and reflective LOA that can help pre-service teachers identify what they have performed to facilitate their learning to teach within authentic feedback loops and guidance through tasks (Carless, 2015). Pre-service teachers' questioning practices can enhance LOA by knowing how to represent and negotiate criteria, ideal practices, and expectations with other pre-service teachers. Through reflective LOA, this can be aligned with reflecting on and eliciting their performance, using feedback from others, self-assessing own practices, and applying critical thinking. Collectively, scaffolding can help pre-service teachers gradually gain feedback and guidance from peers and teacher educators on their teaching practices and theoretical knowledge through self-, peer-, and portfolio assessment practices (Zhao & Qi, 2023; Yosief et al., 2024).

LOA can enhance pre-service teachers' cognitive, metacognitive, and affective functioning (Kim, 2009). Pre-service teachers cognitively learn the theoretical contents and modify their established knowledge about teaching. Also, they can monitor, control, and self-evaluate their practices, skills, and knowledge metacognitively. Affectively, they could decrease their stress and foster their motivation and engagement. However, there are some challenges in implementing LOA in teacher education programs. Firstly, lack of assessment reliability and fairness can be one source of problem as student-teachers may be unable to measure and check the reliability of LOA practices. Secondly, teachers may lack enough motivation to be engaged actively in the process of LOA. Thirdly, it may not be possible for some teachers to do collective and reflective LOA, as they have shortage of resources and

infrastructure, such as time and budget. Lastly, some of the teachers lack the necessary assessment literacy to implement LOA effectively (Farhady, 2021).

Empirical research on LOA is now expansive, but we summarize the findings of some of the most recent studies in this paragraph. Through a qualitative study involving 40 Iranian EFL teachers, Derakhshan and Ghiasvand (2022) demonstrated the effectiveness of LOA in enhancing classroom interaction, collaborative learning, engagement, assessment, teaching, learning, and monitoring students' progress. In a similar study in Iran, Khalili et al. (2024) examined Iranian 44 EFL teachers' perceptions and revealed that LOA can be used to enhance teaching effectiveness, promote teachers' noticing skills, and foster a multi-layered assessment procedure. Yang and May (2023) conducted a case study to explore three Chinese junior high-school EFL teachers' beliefs regarding LOA through observations and interviews. The findings of the study showed that teachers could offer constructive feedback to their students, support the students in enhancing their comprehension through tasks and engagements, where the students were encouraged to assist one another through team work and peer assessment, and fostered independent learning among the students.

Three assessment procedures are commonly used to conduct LOA in learner-centered pre-service teacher education programs, namely self-, peer, and portfolio assessments. Self- and peer-assessments, process-based methods for improving the quality of learning (Martin et al., 2023; Poon et al., 2009), can inform practices with established criteria, lead to independent and active learning, increase students' responsibilities to take actions and judge their own and others' performance, and build up an awareness of what good performance of learning is like (Grez et al., 2012). Given the constructivist role self- and peer-assessments play, as mentioned by Gagnon and Collay (2001), they can improve individual and interpersonal collective reflections. It is argued that portfolios can facilitate pre-service teachers' active, independent, and collaborative learning, enhance their inter-, and intra-personal communication skills, and lead to self- and peer- assessment practices (Klenowski, 2000; Zeng et al., 2018). Thus, pre-service teachers can notice and document their learning experiences, progress, and achievements, direct the development of their future actions, reach self-reflection to observe, analyze, and synthesize, and evaluate actions, experiences, and thoughts by focusing on criteria and standards. Also, they can collaborate with peers and inform others after collecting projects to obtain effective feedback (Joel, 2006). Accordingly, the following three research questions guide the current study:

1. How can collaborative and reflective LOA support learner-centered pre-service teacher education for EFL pre-service teachers?
2. How can self-, peer-, and portfolio assessments enhance EFL learner-centered pre-service teacher education LOA practices in teacher education programs?
3. What are the benefits and challenges of conducting LOA for learner-centered pre-service teacher education from the perspectives of pre-service teachers and teacher educators?

3. Method

3.1. Participants and Setting

In this study, 15 Iranian EFL pre-service teachers (8 male and 7 female teachers), aged 19 to 28 ($M = 22.07$, $SD = 2.62$), were selected through a convenience sampling procedure from a teacher training college in Iran (Table 1). In intrinsic case studies, which are focused on understanding a particular case in detail, the number of participants is typically determined by the complexity of the case and the richness of the data each participant can provide. Considering the practical constraints participants may have, including lack of time, limited resources, and insufficient willingness, dedication, and motivation, we used a larger sample of participants (15 Iranian EFL pre-service teachers) to reach saturated data, allow them to act naturally, place them in an authentic environment, and create supportive conditions for peer collaboration among them. This study was conducted from January 2023 to July 2023 in a language teacher training college famous for preparing teachers locally and internationally by having professional trainers. Convenience sampling was adopted to involve those participants available to enhance the process (Ary et al., 2010).

Two Iranian teacher trainers taught and monitored pre-service student-teachers. They were aged 26 and 44, and both were male. One of the trainers was a Ph.D. candidate in applied linguistics, and another was a Ph.D. holder in applied linguistics. The researchers invited pre-service teachers to assess

their peers through peer assessment in a learner-centered pre-service teacher-training program. They all agreed to experience this mode of assessment and teacher development process, and the college approved the research ethics application for this project. All the signed consents were collected.

Table 1

Demographic Information of the Pre-service Language Teachers

No.	Status	Gender	Age	Major	Degree
1	EFL student-teachers	Male	21	English Language Teaching	BA
2	EFL student-teachers	Male	19	Engineering	BA
3	EFL student-teachers	Male	22	Medicine	MA
4	EFL student-teachers	Male	25	Humanities	BA
5	EFL student-teachers	Male	20	ELT	BA
6	EFL student-teachers	Male	20	Engineering	BA
7	EFL student-teachers	Male	21	Humanities	BA
8	EFL student-teachers	Male	28	ELT	MA
9	EFL student-teachers	Female	22	Medicine	MA
10	EFL student-teachers	Female	21	Engineering	BA
11	EFL student-teachers	Female	20	Humanities	MA
12	EFL student-teachers	Female	21	Medicine	BA
13	EFL student-teachers	Female	20	ELT	BA
14	EFL student-teachers	Female	24	Engineering	MA
15	EFL student-teachers	Female	27	Humanities	BA

3.2. Research Design

In this study, a qualitative intrinsic case study is used for understanding participants' experiences and examining how they interact in their setting. It is implemented to explore, discover, and describe how LOA practices contributed to learner-centered pre-service teacher education by examining the perceptions of EFL pre-service teachers and teacher trainers. Stake (1995) used a case study as "a research question, a puzzlement, a need for general understanding, and feel that we may get insight into the question by studying a particular case" (p. 3). Thus, a case study approach is used to profoundly investigate EFL pre-service teachers and teacher trainers within a real setting (Yin, 2014). The case is the unit of analysis and includes specific situations, processes (learner-centered pre-service teachers' learning), participants (EFL pre-service teachers and teacher trainers), and the Iranian EFL context (Stake, 1995). Accordingly, in a case study, individuals (EFL pre-service teachers and teacher trainers), communities of practice (language teacher education), assessment procedures (LOA), processes and events (learner-centered pre-service teachers' learning), and decisions (formative assessment) are investigated and described. Therefore, this study utilized four instruments to collect qualitative data, such as observations, portfolios of self- and peer assessment, and interviews, to gather diverse forms of data to enrich data saturation.

3.3. Data Analysis

The researchers conducted an inductively induced thematic analysis (Braun & Clarke, 2006) to analyze the qualitative data for this study. As Braun and Clarke (2006) stated, "inductive analysis is, therefore, a process of coding the data without trying to fit it into a preexisting coding frame, or the researcher's analytic preconceptions" (p. 83). Table 2 summarizes a six-step framework by elaborating on how to analyze the data in the current study.

Table 2

Phases of Inductive Thematic Analysis (adapted from Braun & Clarke, 2006, p. 87)

Phase	Description of the process
1	Familiarizing with the data Reading and re-reading the narrative and interview data, and noting down initial ideas.
2	Generating initial codes Coding interesting features of the data systematically across the entire data set, collating data relevant to each code.
3	Searching for themes Collating codes into potential themes, gathering all data relevant to each potential theme.
4	Reviewing themes Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic map of the analysis.
5	Defining and labeling themes Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6	Producing the report The final opportunity for analysis. Selection of vivid, compelling extract examples, the final analysis of selected extracts, relating the analysis to the research question and literature, and producing a scholarly report of the analysis.

The data through observations, self- and peer-assessment practices, portfolios, and interviews were all read, coded, and categorized by reading the transcripts several times to be aware of their meanings and identifying meaningful patterns to code in each extract (Ary et al., 2010). After that, the same extracts were combined and placed in a broader category. Moreover, the subcategories were associated with the themes (Strauss & Corbin, 2008). Furthermore, the results of checking the coding process by the researchers showed an inter-coder reliability of 95.5. All inconsistencies were fixed after a comprehensive conversation between the researchers to reach a complete agreement.

3.4. Procedure: Data Collection and Training

After collecting the consent forms, the teacher trainers had three one-hour sessions regarding the implementation of LOA in learner-centered pre-service teacher education. The trainers placed the participants into three groups to engage them in closer collaboration with their peers. Accordingly, two groups included five males and four females, but one group included three females and three males. Besides the theoretical training and presentations of trainers during the course about methodologies, language acquisition, assessment, research, and education, among others, the groups were required to conduct self- and peer-assessments with their peers in their groups during their practice sessions. Pre-service teachers were requested to conduct at least 10 peer observations and five practicum lessons. The focus of observations was on the applications, procedures, and benefits of LOA-related practices. They also compiled a portfolio individually and included all peer-, and self-assessments, along with other projects in the course.

During their teacher-training course, the teachers were invited to reflect critically on their practices and discuss their assessment experiences and theoretical content knowledge with others in a team and other teams on a weekly basis. The trainers observed and monitored pre-service teachers during their teaching practices, self-assessments, and peer-assessments and guided them effectively with guidance and support by highlighting the standards and prompting criteria throughout the process. Furthermore, they had two half-an-hour sessions of semi-structured interviews conducted by the lead author by asking several prepared questions about pre-service teachers' perceptions concerning LOA, self- and peer-assessment, portfolios, and learner-centered pre-service teacher training process, as well as asking them to elaborate on the reasons, challenges, benefits, procedure, and suggestions. The interview sessions were audio-recorded, and the lead researcher jotted down notes during each interview.

4. Results

4.1. *The Investigation of the First Research Question: How can LOA support learner-centered pre-service teacher education for EFL pre-service teachers?*

4.1.1. **Learning, Teaching, and Assessment Integration with Reflectivity and Interactivity.**

The first research question explored the role of LOA in supporting the learner-centered pre-service teacher education. The analysis of data revealed that student-teachers became more autonomous and had more agency in their practices because they used LOA to assess their own and peers' instructional and linguistic performance and redirect their learning mode to teach. The pre-service teachers observed, reflected on, and evaluated their own and their peers' practices, and implemented suitable strategies. In the words of student-teacher 4; *"We could use LOA for reflecting and sharing our skills, knowledge, and experience to improve the quality of first teaching practices without receiving much help from teacher trainers and other stakeholders."* The pre-service teachers' reflections on their experiences through implementing LOA practices also improved their reflectivity and interactivity by reflecting on the problems and solutions, enhancing their emotional, social, and cognitive presence, and developing their higher-order thinking skills. Student-teacher 1, for example, had the following to offer in this respect: *"My peers were really critical of my performance during the first practicing sessions, and their observations opened windows of growth opportunities. So, reflective practice could be more critical and through-provoking as they were more cognitively and socially present. I think that we could learn more autonomously."*

Pre-service teachers were at the center of their learning. They constructed the meanings, concepts, and knowledge by generating new thoughts and practices that were more systematized and founded by having reflection through self-assessment and collaboration via peer assessment. As such, they reflected on the problems, collaborated with others to enhance their performance, carried out tasks, practiced self- and peer-assessment, and received feedback. For example, student-teacher 9 noted; *"We, pre-service teachers, could come up with some points through reflecting on experiences and collaborating with peers, that were not presented and tangible in the teacher training course."* Additionally, the student-teachers perceived reflection and collaboration as well as authentic tasks and projects as sources of practical, experiential, and constructive learning, because they were provided with direct and indirect feedback, had collaboration and reflection opportunities, and linked theory to practice. It was also viewed as: *"I could make sense of novel experiences even through assessment tasks...this was due to the reflection and collaboration, tasks and projects, implementation and feedback, and goals and objectives explicitly and implicitly"*, as stated by the teacher trainer 1.

Pre-service teachers reflected, collaborated, and engaged in teaching, learning, and assessment tasks, processes, and events integratively during their teacher training program. This was a continuous process of incorporating a practical assessment with teaching and learning to become more experiential, reflective, collaborative, and flexible to change actions. In this way, they could meet their needs and gain a growth mindset to enhance previous practices positively. They also linked the theoretical knowledge presented with the practical concerns during observations and practicing sessions by reflective self-assessment and collaborative peer- assessment. LOA resulted in equitable power relations among pre-service teachers, and teacher trainers were not perceived as sages on the stage in a top-down approach, but they were facilitators of learning for pre-service teachers. LOA also motivated pre-service teachers to trust learner-centered pre-service teachers' learning by sharing and reflecting on their tasks, self- and peer-assessment practices, and feedback sessions. For instance, student-teacher 6 noted; *"LOA practices could help me rely on myself and peers for developing professionally, socially, and personally, along with the constructive and relevant guidance provided by the teacher educators"*.

4.2. *The Investigation of the Second Research Question: How can self-, peer-, and portfolio assessments enhance EFL learner-centered pre-service teacher education LOA practices in teacher education programs?*

4.2.1. **Meaningful Reflective and Collaborative Authentic Assessments in Support of LOA.**

The second research question examined how self-assessment, peer-assessment, and portfolio assessment enhanced EFL pre-service teachers' LOA practices in teacher training programs. EFL pre-service teachers used self-assessment to record their practices, reflect on them, identify strengths and weaknesses, evaluate their performance, receive feedback, set relevant goals, and reform practices. In

addition, they implemented peer-assessment to observe peers' classes, provide relevant feedback, interact professionally, co-plan, reflect, and implement, and have critical discussions. Additionally, they could collect evidence, find areas for improvement, reflect on the experience, review successes and failures, collaborate, give feedback, and develop continuously through portfolios.

The pre-service teachers were reflective, critical, evaluative, systematic, and motivated during their self-assessments, because they tended to reflect on their lesson plans, recognize problems, set relevant and achievable goals, seek feedback, use assessment tools, analyze students' outcomes, and develop metacognitive skills. As student-teacher 5 explained, *"we recorded our classes for follow-up reflection, used checklist criteria to inform practices, document development, identify strengths and challenges, and analyzed and synthesized practices aligned with what theories maintain."* In addition, peer-assessment practices could inform pre-service teachers about the criteria and standards which are crucial in guiding their teaching practices within their instructional context, so as to reflect and examine their educational and professional performance and that of their peers constructively. Finally, a portfolio can be made by collecting all self-assessment, peer-assessment, and other project-based practices and activities, motivating pre-service teachers to enhance their theoretical and practical knowledge progressively and procedurally.

Self- and peer-assessment activities were made more authentic as pre-service teachers were cognitively and affectively engaged during their initial practices by focusing on and noticing current practices, dealing with challenges emotionally, and thinking to resolve problems and enhance the teaching process. Pre-service teachers also used assessment criteria and standards to observe and learn continuously, link their real practices and ideal performance, have meaningful reflection and collaboration through scaffolding and inquiry, and learn from their practical experiences. For instance, pre-service teacher 8 stated; *"Self-assessment helped me find myself as a teacher and recognize my personal approach in teaching, which were important during my first practices. Also, the criteria could be negotiated with other peers to meet the needs of the context"*. Similarly, student-teacher 2 observed that *"self- and peer-assessment and portfolios were sources of reflection and collaboration in practicing theories while evaluating own and peers' performance more systematically."* Such assessment activities helped them gain feedforward to foster their practices by guiding their own and peers' actions, generating new knowledge and practices, negotiating criteria, and changing further actions. As an example, teacher trainer 2 commented; *"Self- and peer-assessment could help them look and practice forward. I mean that they could change positively, act responsively, and perform professionally despite a lack of experience in teaching."*

4.3. The Investigation of the Third Research Question: What are the benefits and challenges of conducting LOA for learner-centered pre-service teacher education from the perspectives of pre-service teachers and teacher educators?

4.3.1. The Role of LOA in Leading Student-Teachers Towards Active, Cooperative, and Flexible Practices. The third research question was to understand the benefits and challenges of LOA for learner-centered pre-service teacher education. The analysis of data reveals numerous benefits LOA can provide for pre-service teachers. Firstly, pre-service teachers concentrated on reflective self-assessment, collaborative peer-assessment, and portfolios within an autonomous learning environment. Hence, through self-assessment and peer assessment, pre-service teachers became *"active in learning in a real-world context with authentic and experience-based tasks and activities, such as teaching practice, reflection, observation, and collaboration,"* as the student-teacher 11 pointed out. The student-teacher 7 also affirmed:

We could enhance our learning by doing what we have learned before, teaching what theories support, reflecting on first practices, observing other peers, assessing our own and others' performance systematically, and collecting all files and projects to reflect individually and collectively later. This was a more genuine and realistic approach to learning that could be built upon practice, assessment, and learning.

Secondly, pre-service teachers were more self-directed, autonomous, and self-evaluative by taking more self-directed actions, planning their progress and development, making decisions by their own choice and logic, and learning deeply by incorporating cognitions and emotions. Thus, LOA is built on self-regulated learning strategies involving cognitive, meta-cognitive, affective, and social

strategies. Thirdly, pre-service teachers accelerated their positive emotions, such as self-efficacy, motivation, self-image, growth mindset, noticing, reflective mind, flexibility, helpfulness, curiosity, inquisitiveness, criticality, and purposefulness. These important feelings supported teachers' maintenance and survival during their first practices in real classes and helped them avoid burnout and attrition, as reflected in the words of the student-teacher 3:

Following LOA practices, I realized that I could develop personally and emotionally by having greater motivation to take actions without fear of making mistakes and becoming more reflective to notice what I was doing at the moment to manage myself, my class, and my students.

LOA, therefore, helped the pre-service teachers to promote active learning, use assessment for learning, develop critical reflective practice, and stress continuous feedback. LOA also contributed to fostering self-regulation, enhancing assessment literacy, supporting differentiated instruction, and developing a supportive collaboration. For instance, student-teacher 9 noted that "I learned different assessment concepts as I used this mode of assessment for my learning... I could be more independent and self-directed by implementing tasks, using interactions and reflections, and receiving guidance from peers." Besides the positive aspects, there are a couple of negative points and experiences that LOA caused for pre-service teachers from their perspectives. It required great resources, time, accessibility, and other facilities for pre-service teachers, which rendered it relatively impractical. For example, some pre-service teachers (e.g., the student-teacher 14) were "*unwilling and unmotivated to take more agency in the process*", because, previously, they were used to their own teacher-oriented classes with presentations and lectures from teacher trainers. Moreover, some pre-service teachers had low self-esteem and were introverted to work with others in a team. Furthermore, the teacher trainers attempted to monitor them closely to enhance the reliability of their assessment practices, so it was also time-consuming for them.

5. Discussion

This study explored how LOA practices, such as self-, peer, and portfolio assessments can enhance the pre-service teacher-centered teacher education process. LOA offers numerous benefits for pre-service teachers professionally, personally, and socially. Professionally, pre-service teachers learned to observe and monitor their practices while performing tasks, doing self- and peer-assessment, and obtaining feedback. In this case, they learned through reflecting on experiences and knowledge and analyzing and synthesizing knowledge and practices by observing others through checklists. Thus, LOA can direct and redirect their practices systematically and collaboratively through self-, peer, and portfolio assessments, which have been confirmed in the findings of some other researchers (Babik et al., 2024). Moreover, they learned how to reflect on and share their experiences, practices, knowledge, and skills more logically and systematically with others in a team. In this case, by constructing novel and personalized teaching knowledge, theories, and practices, they can act innovatively, think outside of the box, and reform previously established understanding regarding teaching and learning (Yosief et al., 2024).

LOA was capable of linking teaching, learning, and assessment. Pre-service teachers could not recognize them obviously while performing and acting during their teacher training process since teaching, learning, and assessment were integrated, interrelated, and combined through reflective and collaborative self-, peer-, and portfolio assessment practices (Derakhshan & Ghiasvand, 2022). LOA procedures, therefore, can implicitly evaluate, assess, and influence pre-service teachers' learning and teaching practices practically and authentically through tasks, activities, projects, and practicum. In this way, learning to teach is not only caused by knowing the theories and concepts but also by putting theories and knowledge into practice in a genuine context (Yang & May, 2023). Moreover, pre-service teachers could receive numerous feedback opportunities from peers, themselves, and other practitioners to enhance their practices and knowledge that can feed them forward directly and indirectly in a constructive manner. They could change their actions positively through a systematic and collaborative framework provided by LOA practices in a learner-centered pre-service teacher training process (Er & Farhady, 2023). Pre-service teachers' perceptions of the philosophy of learning were influenced by implementing LOA. They could see learning as a bottom-up, active, and autonomous move that needs efforts, actions, performance, reflections, and collaborations to develop constantly and continuously during their first-time teaching experiences, as formerly established (Jones & Saville, 2016). Pre-service

teachers, therefore, can gain deeper knowledge of assessment practices and achieve greater assessment literacy when they assess their own students. They also learn to support differentiated instruction by respecting the specific needs, wants, capabilities, and interests of the intended learners through making connections between assessment, learning, and teaching (Keppell et al., 2006).

By implementing LOA procedures, such as self-assessment, peer assessment, and portfolios, pre-service teachers could notice gaps in their practices and knowledge, engage cognitively and emotionally, solve problems, and deal with some challenges, and try to enhance the teaching process (Martin et al., 2023). This contrasts with the former belief that pre-service teachers should follow expert teachers' instruction, guidelines, and advice although initial teacher guidance remains constructive to pre-service teachers (Zeng et al., 2018). Hence, EFL pre-service teachers gain voice and agency to act and change practices through systematic self-assessment and collective peer assessment practices based on inquiry and scaffolding. Scaffolding, as proposed by Vygotsky (1978), can occur among peers in a team by sharing, caring, connecting, directing, and changing collectively with the help of peers and others. The feedforward generated by LOA practices can help close the learning gaps between pre-service teachers' existing and anticipated levels by constantly referring back to transparent standards and criteria, as confirmed in the pertinent research (Shepard, 2005).

LOA could also enhance their emotions and feelings, specifically developing their positive feelings and emotions related to teaching, which could be effective in their first teaching practices. Pre-service teachers became more motivated to take ownership and autonomy in their learning process. They also became more critical and had higher-order thinking processes, important in reflective and collaborative practices (López-Hernández et al., 2023). Moreover, they worked as a facilitator for their peers to enhance their practices through peer-assessment and observation feedback and gain more self-understanding due to self-assessment practices. Compared with other methods, LOA practices are less restrictive and somewhat easy to begin and sustain, and student-teachers became growth minded and positive towards making novel and constructive changes together in teams. They also achieved greater self-efficacy, self-image, and sense of helpfulness, which are vital positive emotions for teachers' growth and maintenance. These findings are confirmed by some other previous studies (e.g., Zhao & Qi, 2023), which also showed some of these positive emotional traits after LOA practices among EFL pre-service teachers.

These positive feelings can imply that LOA can help pre-service teachers have a better experience in learning to teach and greater motivation to start and maintain the profession after graduating from teacher training programs (Gao, 2017). However, pre-service teachers and teacher trainers should consider the challenges of LOA, including the time-consuming nature, lack of resources and accessibility, unwilling pre-service teachers to cooperate with others and self-assess, and limited pre-service teachers' agency in a top-down learning culture such as Iran and other similar contexts (Khalili et al. 2024; Ma, 2023; Namaziandost et al., 2024). Teacher trainers and stakeholders should consider these perceived challenges and improve the process of learner-centered pre-service teachers' learning for pre-service teachers. Furthermore, pre-service teachers could develop socially by interacting with their peers in groups and sharing their experiences and knowledge in a shared network to enhance collective understanding and practice (Purpura, 2016). They used peer-assessment practices to scaffold skills and knowledge for other peers by reflecting and collaborating in a team, which can help them reach collective autonomy. Overall, LOA was considered an effective procedure to enhance learner-centered pre-service teacher education programs.

6. Conclusion

The significance of having active and agentic teacher education inspires researchers to develop different models to enhance the learner-centered pre-service teacher training process. Hence, LOA can effectively integrate assessment, learning, and instruction to contribute towards a more active, authentic, and integrated learning process. Pre-service teachers became active, cooperative, and flexible to generate relevant and personalized knowledge and practice and integrate and assimilate learning, teaching, and assessment with reflectivity and interactivity. They also used reflective and collaborative self- and peer-assessment and portfolio to enhance their learning and teaching. From this perspective, pre-service teachers could develop interpersonally by working with others, personally by assessing their

practice and reflecting on their cognition and emotions, and professionally by learning how to teach more practically.

The findings of this study can inform teacher trainers and pre-service teachers to adopt LOA in their teacher-training process in a learner-centered pre-service teacher education program. Pre-service teachers can be familiarized with LOA practices, such as reflective and collaborative practices, portfolios, and self- and peer-assessments, to enhance and integrate their learning, teaching, and assessments during a learner-centered pre-service teacher education. The findings of this study can also inform teacher educators to render pre-service teachers more agency and autonomy. Also, assessment for pre-service teachers becomes more learning-based and authentic, which can pay more attention to the practicality, personalization, and operationalization of pre-service teachers' theoretical and instructional knowledge. Therefore, the implementation of LOA for pre-service teachers can increase the quality of teacher education by focusing on their reflections, collaborations, involvement, and feedback within a learner-centered pre-service teacher education program. The findings, though descriptive and perceptual, may add new perspectives on how to turn top-down teacher training into a bottom-up mode via LOA.

Given that the study included only 15 Iranian EFL pre-service teachers from a single teacher-training university, the findings should be treated with caution, and sweeping generalization to similar contexts should be avoided. Researchers in further studies should consider incorporating larger sample sizes from different national and international contexts to produce more reliable results. The present study followed a qualitative research design to explore LOA practices in teacher education, but more research (following experimental and mixed-methods studies) is needed to substantiate the results of the study and to offer a more comprehensive picture of LOA, to unpack the complexities associated with LOA, and offer solutions to empower pre-service EFL teachers to make more informed decisions.

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