Tarbiat Modares University

Do EFL Teachers' Digital Literacies Reflect Sociocultural Frameworks during Their Online Professional Development?

Nur Hidayat [1] iD *, Slamet Setiawan [2]* iD *, & Syafiul Anam [3]* iD

Abstract

The sociocultural theory has been considered an essential pillar for EFL teaching and learning; however, the existence of this theory has often been neglected in teacher professional development. This mixed-method study examined EFL teachers' self-reported beliefs and practices in integrating digital literacy using a sociocultural framework during online teacher training activities in the Indonesian English as a Foreign Language (EFL) setting. A total of 240 in-service EFL teachers from various secondary schools in the East Java province enrolled in the online professional training program. They were assigned to fill the three categories of sociocultural questionnaires during their online teacher professional development. Then, an interview was conducted with 60 selected participants to elaborate on their practices and challenges of implementing sociocultural theory in their online teacher professional program. The results from the three sociocultural dimensions indicated that the in-service EFL teachers attending the online training program had minimal sociocultural awareness and practices regarding global cultural integration with technology-based teaching. Pedagogical implications for improving the EFL teacher training program and recommendations for further studies were discussed throughout the study.

Keywords: digital literacy practices, in-service EFL teachers, sociocultural framework, online professional development

[1] Corresponding Author: PhD Candidate, Faculty of Language and Literature Education, Universitas Negeri Surabaya, Indonesia; *Email: saujiruseta@gmail.com*,
ORCID ID: https://orcid.org/0000-0002-1023-4877
[2] Professor, English Department, Faculty of Languages and Arts, Universitas Negeri Surabaya, Indonesia; ORCID ID: https://orcid.org/0000-0003-4143-8757
[3] Associate Professor, English Language Education, Universitas Negeri Surabaya, Indonesia; ORCID ID: https://orcid.org/0000-0002-4687-856X

1. Introduction

The rapid growth of digital technology has changed various aspects of educational practices, including teacher professional development fields (Al-Obaydi et al., 2023). The educational practices under this circumstance require adequate literacy skills to cope with technological operations (technical and non-technical aspects) (Dashtestani & Hojatpanah, 2020; Tour, 2020). These situations have caused second language (L2) teachers to integrate digital literacies into their teacher professional development programs (Godwin-Jones, 2015; Tour, 2020). Previous research has acknowledged the advantages of technology integration in the teacher professional development (Cope & Kalantzis, 2000; Hutchison & Reinking, 2011; Tour, 2015, 2020). However, it is relatively sparse regarding the implementation of teaching English using technology within a sociocultural framework (Hafner et al., 2015; Tour, 2020). Therefore, EFL teachers should learn three skills simultaneously under online circumstances. They have to learn how to use technology, engage their students in a real target English culture using the technology, and at the same time teach the English content knowledge.

Given the above challenges, it is not surprising that previous studies are often fragmented into different emphases. Researchers who emphasize digital literacy skills tend to examine teachers' and students' digital literacy mastery levels and abilities (Bataineh & Baniabdelrahman, 2006; Fu & Wang, 2022; Gharawi & Khoja, 2015; Palacios-Hidalgo et al., 2020), motivation, and attitudes (Bodnar et al., 2016; Chen, 2012; Huang & Liaw, 2005), teachers' and learners' perceptions (Baek & Sung, 2020; Dashtestani & Hojatpanah, 2020; Ding et al., 2019; Leong et al., 2019; Sadaf & Johnson, 2017), technology integration to improve the instructional quality (Arifani et al., 2020, 2021; Bajoolvand et al., 2014; Barrot, 2020; Dashtestani, 2016; Reynolds & Kao, 2019; Rostami et al., 2017).

Conversely, the researchers who emphasize more comprehensive variables attempting to address technological skills and pedagogical content knowledge tended to explore technological pedagogical and content knowledge (TPACK) without a relevant theoretical framework (Baser et al., 2016; Bostancıoğlu & Handley, 2018; Mishra & Koehler, 2006; Nazari et al., 2019; Ryu & Lee, 2017; Tseng et al., 2020).

Tour (2020) criticizes the dearth of sociocultural practices in L2 teacher education from the available literature on digital literacy research. In his critique, Tour (2020) highlights examples of how we use technology to promote sociocultural theory

during EFL/ESL instructional practice. Through learners' email, mobile apps, or other applications, he suggests EFL/ESL teachers engage their students in different EFL/ESL cultural environments to encounter them with rich English exposure and engagement. Uploading learners' online tasks into YouTube channels to get accurate comments from broader people is another example of integrating learners into real-world contexts. Those examples align with Vygotsky's sociocultural theory, which suggests the importance of targeting cultural interactions between learners and teachers (Derakhshan & Shakki, 2019).

This theory helps teachers and learners engage in authentic meaning-making in natural and authentic learning situations (Hafner, 2014; Milton & Vozzo, 2013; Vygotsky, 1979). This theory has been well-established and publicized widely to improve the qualities of teachers' and learners' digital integration qualities. Even a model of teaching digital literacies in L2 classrooms and its practical strategies using a sociocultural approach has been illustrated by Tour (2020) in his literature review report as an alternative solution to his satisfaction with the existing concepts. However, relatively few studies have investigated digital literacy practices under the sociocultural approach within in-service English as a Foreign Language (EFL) teacher professional training. This study addresses their self-reported beliefs and practices in integrating technology using Wilson et al.'s (2017) sociocultural adaptation model during their online teacher training program.

2. Literature Review

2.1. The Dimensions of Sociocultural Framework to Digital Literacies

The sociocultural theory postulates that learning is a complex social and cultural interaction process within particular situations (Vygotsky, 1979). In the L2 learning context, this theory suggests that learning is an ongoing process since the L2 language is related to social and cultural situations, which are dynamic from time to time (Poedjiastutie et al., 2021; Tour, 2020; Wilson et al., 2017). Historically, in the early 1980s, this theory was associated with language and literacy studies which are still limited to reading and writing literacies. In this phase, a sociocultural theory emerges to counter the previous cognitive theory of language, which views language learning from the cognitive perspective. Researchers begin to learn literacies from the sociocultural lens in the initial development. Some researchers also examine literacy from social and cultural perspectives because they believe literacy is closely situated

and contextualized in social and cultural interactions (Hafner, 2014; Milton & Vozzo, 2013; Rowsell & Pahl, 2015; Tour, 2020; Wilson et al., 2017).

Similarly, technology development also changes traditional printed-based literacy into technology-based literacy/digital literacy practices. The sociocultural approach also influences the concept of digital literacy practices. Many scholars attempt to identify technological literacy within social and cultural situations relevant to learners' real-life situations. In this case, the phrase digital literacy is not just measuring teachers' and learners' digital literacy levels and technical uses of technology. Digital literacy involves not just technical abilities to make the technology work. However, it involves social and cultural knowledge and understanding to interact, value, manage, communicate, and create meanings in a wide range of digital technology uses in virtual environments, purposes, and audiences (Gee, 2005; Hafner et al., 2015; Tour, 2020; Wilson et al., 2017).

One of the most distinctive sociocultural approaches applied to second language acquisition is a sociocultural adaptation scale proposed by (Wilson et al., 2017). Wilson et al. (2017) proposed three dimensions of sociocultural competencies: social interaction, community engagement, and ecological adaptability skills. Social interaction skill refers to basic individual abilities to communicate using verbal and non-verbal communication, building and maintaining social relationship, interacting at social events, and responding to other people's emotions. Community engagement involves individual abilities to engage, attend or participate in relevant community activities. Ecological adaptability comprises individual skills to adapt to the pace of life, understanding, speaking, reading, and writing in the host language. We then apply the three sociocultural frameworks to rate EFL teachers' beliefs and practices using a sociocultural theory during their online teacher training program.

2.2. EFL Teacher Digital Literacy Practices

This literature review discusses various theoretical frameworks for digital literacy practices in the L2 teacher education program before the author proposes a sociocultural basis for the study. Drawing the literature review results from 2006 to 2020, selected from reputable journal articles indexed in Scopus and Web of Science (WoS), SSCI suggests four different areas of digital literacy research within the context of the L2 teacher education program. Those four areas include the assessment of L2 teachers' digital literacy level or competence (Bataineh & Baniabdelrahman,

2006; Gharawi & Khoja, 2015; Palacios-Hidalgo et al., 2020), teacher's and learner's beliefs (Chen, 2012; Ding et al., 2019; Sadaf & Johnson, 2017), perceptions, motivation, and attitudes (Baek & Sung, 2020; Bodnar et al., 2016; Dashtestani & Hojatpanah, 2020; Huang & Liaw, 2005; Leong et al., 2019), technological applications and practices (Arifani et al., 2020; Bajoolvand et al., 2014; Barrot, 2020; Dashtestani, 2016; Fathi et al., 2021; Reynolds & Kao, 2019; Rostami et al., 2017; Zakian, 2022).

Researchers have used a variety of instruments to assess teachers' and students' digital abilities, such as Technological Pedagogical Content Knowledge (TPACK) concepts (Baser et al., 2016; Bostancıoğlu & Handley, 2018; Mishra & Koehler, 2006; Nazari et al., 2019; Ryu & Lee, 2017; Tseng et al., 2020), theory of plan behavior (Sadaf & Johnson, 2017), International Society for Technology in Education (ISTE) (Baek & Sung, 2020; Kimm et al., 2020), a practical guide of teaching digital literacies using the sociocultural approach (Tour, 2020).

Under the TPACK framework, for example, a validated and reliable TPACK instrument has been designed to assess EFL teacher professional development using similar constructs of Technological Knowledge (TK), Content Knowledge (CK), Pedagogical Knowledge (PK), Pedagogical Content Knowledge (PCK), Technological Content Knowledge and Technological Pedagogical Knowledge and Technological Pedagogical Content Knowledge (TPACK) and curriculum (Baser et al., 2016; Bostancıoğlu & Handley, 2018). Then, some researchers in the EFL context apply this framework as a basis of their investigation to examine teachers' beliefs, digital literacy levels, and practices. In a search for different perceptions of TPACK between less-experienced and experienced EFL teachers in Iran, Nazari et al. (2019) conducted a mixed-methods study using a survey (427 EFL teachers aged 20 to 55 years and interviewed 16 EFL teachers). The results showed that the experienced teachers had higher perceptions of PC and PCK. Meanwhile, the less-experienced ones had higher TK, TCK, TPK, and TPACK. In a different study, Tseng et al. (2020) conducted a comprehensive TPACK review from 2011 to 2019 on L2 language teacher education. The results were classified into four categories: exploring TPACK, assessing TPACK, developing TPACK and applying TPACK. The researchers who followed this TPACK theory perceived that it could accommodate all language teaching and learning aspects, such as language content, pedagogy, and technology integrations, but they were unaware that language should be seen from sociocultural perspectives. Those researches did not involve sociocultural approach in

their studies.

Using a different theoretical framework, Sadaf and Johnson (2017) investigated in-service teachers' beliefs of digital literacy using a planned theory of behavior (behavioral, normative, and control beliefs) using exploratory qualitative research in a Midwestern university. The online survey was administered to 50 teachers, and semi-structured interviews were conducted with six teachers. The in-service teachers believed that digital literacy integration could enhance students' engagement and subsequently prepare them for future careers from the behavioral beliefs. The normative beliefs and expectations of administrators, colleagues, and parents became influential in integrating technology into their teaching. They argued that integration and testing standards became barriers to integrating technology from the control belief. Implementing the plan theory of behavior in the above studies only draws on how EFL teachers behave toward technology integration and teaching. Again, this theory cannot explain how language and technology are implemented in the actual situation, context, and culture since the focus of the study is not far from the previous TPACK belief and practices. However, TPACK provides more comprehensive views of content, pedagogy, and technology integrations.

However, with few notable exceptions (e.g., Baek & Sung, 2020; Sadaf & Johnson, 2017; Tour, 2020), little research has been conducted to empirically scrutinize the EFL teachers' beliefs and their practices in integrating technology using a sociocultural approach during their online teacher training program. This study applies Tour (2020) and Wilson et al. (2017) three dimensions of sociocultural frameworks: social interaction, community engagement, and ecological adaptability.

To address the above issues, we propose two research questions, namely:

1. What are the in-service EFL teachers' self-reported technology integration beliefs using the sociocultural framework during their online teacher training program?

2. How do the in-service EFL teachers implement the sociocultural approach using technology during the online teacher training program?

3. Methods

3.1 Research Design

This mixed-method design aimed to examine the in-service EFL teachers' self-reported technology integration beliefs using a sociocultural theory and how they implemented it during their online teacher training program. EFL teachers' beliefs were assessed using Tour's (2020) and Wilson et al. (2017) sociocultural adaptation scale. Further, focus group interviews were conducted to draw their online teaching practices to investigate how they implement this sociocultural theory during their online teacher training program.

3.2 Participants and Context

The research participants involved 240 (107 male and 133 female, 39-49 years old) EFL senior high school teachers from different cultural backgrounds who have completed one-year online teacher professional training under the Indonesian Ministry of Education. Thirty-nine of them (16.3%) had a master's degree, and 201 (83.7%). The limited number of research participants is due to the tight governmental selection tests and a high passing grade to be accepted in the in-service training using online platforms. The entry test involved administrative, academic potential, and pedagogic tests. The teachers should fulfill the administrative criteria such as: (1) being included in the national database; (2) passing the entire test; (3) having an undergraduate degree from an accredited college; (4) having a linear educational background; (5) five years teaching experience; and (6) no more than 58 years. The in-service training is completed with online Knowledge and Performance tests before getting a certificate of recognition as a professional teacher from the government (Arifani et al., 2021).

The government has nominated this national project to several reputable universities with exemplary English Education programs (Arifani et al., 2020, 2021). The Indonesian Ministry of Education appointed four host universities to enroll in this online professional training. In this study, the researcher studied three host universities at the East Java provincial level, representing another area of Indonesian education practices. This professional training consisted of three phases.

First, the study participants had to actively participate in the Indonesian e-learning platform system (SPADA) for 30 online meetings to learn many aspects of EFL

instructional designs, sociocultural theories, teaching theories, and assessments. Online discussion forums were implemented through various approaches to produce standardized online teaching lesson plans, media, videos, course content, and teaching evaluation. In the second stage, they held their online teaching with their students in their schools to implement sociocultural teaching practices. During the online teaching practices, two senior university teachers from the host universities regularly monitored each teacher. This stage took 30 meetings as well. In this case, the host universities' supervisors were intensively involved in the teachers' online teaching activities to monitor and evaluate the participants' progress. Online reflection and discussion were also conducted for teaching improvement. In the third step, online post-tests involving pedagogical tests, English content knowledge, and teaching performance tests were administered to assess whether they received professional teacher recognition. At the end of the in-service online training activities, a sociocultural adaptation scale initiated by Tour (2020) and Wilson et al. (2017) was administered to 240 EFL teachers. The scale included 11 items; social interaction (4 items), community engagement (3 items), and ecological adaptability (4 items). All participants were invited to fill out the online questionnaires, and 60 of them participated in the focus group interviews (three questions) using a zoom meeting to rate their self-reported technology integration beliefs using a sociocultural theory during their online teacher training program and draw their digital literacy practices using the same theory.

3.3 Instrument

3.3.1 Development of Questionnaires

This study aimed to investigate the in-service EFL teachers' self-reported beliefs of technology integration using the sociocultural theory and how they implemented this theory during their online teacher training program, a sociocultural adaptation scale for technological integration in L2 teacher online professional training initiated by Tour (2020) and Wilson et al. (2017) were implemented to explore their perceptions. An 11-multiple option format with a five-interval from "low" to "high" has been applied. The means range between 1-2.5 is interpreted as a low sociocultural implementation, 2.6-3.5 (average level), and 3.6-5: a high level of fulfillment (Tour, 2020; Wilson et al., 2017). It contains three multidimensional categories of social interaction (4 items), community engagement (3 items), and ecological adaptability (4

items). Specifically, social interaction refers to the EFL teachers' abilities to implement technology-based teaching so that their students can use verbal and non-verbal communication, build and maintain social relationships, interact at social events, and respond to other people's emotions. Community engagement refers to the EFL teachers' abilities to apply technology-based teaching so that their students can engage, attend, or participate in relevant community activities. Ecological adaptability refers to the EFL teachers' ability to apply technology-based teaching so that their students can adapt to the pace of life and communicate using the target language through listening, speaking, reading, and writing activities after they engage with various English communities through the available online platforms.

Amendments to the sociocultural questionnaires were made to their content to accommodate the technological element in the instrument (content validity)—a panel of three experts of technology-based learning and sociolinguistics experts holding PhD degrees was invited to comment on the constructs and items of the questionnaire. The edited questionnaires were then piloted to different in-service teacher participants to measure their reliability. The Cronbach's alpha values were: social interaction (.090), community engagement (0.90), and ecological adaptability (0.94). Approval letters from the host universities, school principals, and participants were obtained. The involvements of research participants were selected voluntarily, and their confidentiality was also guaranteed.

3.3.2 Semi-Structured Interview

A researcher-made semi-structured interview was administered to 60 EFL teachers regarding their practices in implementing the sociocultural approach in their technology-based teaching. This interview was also designed to triangulate the qualitative data and the results of their self-reported beliefs. Three socio-cultural questions of social interaction, community engagement, and ecological adaptability using technology were created to draw teachers' perspectives. An evaluation checklist to consult the content of interview items was given to three experts of technology-based teaching and linguistics lecturers with PhD degrees to validate the interview questions. Their opinions, comments, and suggestions were used to determine the content suitability and validity of the interview questions. The interview questions were then tried out on different EFL teachers who enrolled in the same online professional training program. The interview questions emphasized the qualitative

perspectives of the sociocultural approach. The researchers proposed the questions, such as: "How did you connect your students to different target learning communities?", "Can you describe successful efforts in implementing technology-based instructions using technology?" and "What challenges did you have in implementing a sociocultural approach in your online teaching practices?".

3.4 Data Analysis

The first step of this study was initiated when the researcher and the team visited three host universities that enrolled in one-year online teacher professional training for research approval. Next, we conducted online zoom meetings to socialize and administer the questionnaire to collect quantitative data. Then, a focus group interview with the EFL English teachers was conducted at the end of their training session after they had accomplished the traditional post-test. In order to analyze the quantitative data of EFL teachers' self-reported beliefs, the researcher utilized the Statistical Package for the Social Science (SPSS) version 24. The EFL teachers' perspectives in the questionnaires were measured using the descriptive statistics test for the mean and standard deviation. To explain the teachers' perspective from the questionnaire, the researchers presented the standard deviation and means.

The qualitative data, including focus group interviews with a sample of 60 teachers (15 teachers were taken from each host university, and they represented different demographic areas. So the 60 participants from the four host universities represented 60 different cities of Indonesia) were analyzed by transcribing the interview results and continued by reducing the data, displaying them, and drawing a conclusion. To avoid the subjectivity of the qualitative data interpretation, the researcher and team crosscheck and exchange the coding (thematic building from the interview) and its interpretation results. In this case, one theme was interpreted by two people (researcher and team). Consultation with research advisors was also conducted to mediate any biased interpretations. Before conducting the interview, a coding scheme was designed to improve the consistency level of coding. The codes were defined based on: the social interaction perspective (SIP), community engagement perspective (CEP), and ecological adaptability perspective (EAP). Then, all interview results were categorized based on the three codes.

4. Results

Research Question 1 (RQ1): What are the in-service EFL teachers' self-reported technology integration beliefs using a sociocultural theory during their online teacher training program?

The authors used a descriptive statistics test to draw the in-service teachers' self-reported technology integration beliefs under the sociocultural framework. The sociocultural theory consists of three dimensions: social interaction, community engagement, and ecological adaptability. The mean and standard deviation of the three categories are illustrated below.

Table 1
In-service Teachers' Sociocultural Perspective of Digital Integration in L2 Teaching

	N Statistic	Min Statistic	Max Statistic	Mean	Std. Deviation
Social Interaction	240	2.50	4.25	3.34	0.303
Community Engagement	240	2.00	3.33	2.60	0.329
Ecological adaptability	240	2.25	3.50	2.40	0.298
Valid N (listwise)					

Table 1 illustrates the in-service EFL teachers' perceptions of integrating technology using the sociocultural approach. Of the three sociocultural dimensions, the mean of the social interaction dimension showed the highest scores (3.34) than the two other dimensions of community engagement (2.40) and ecological adaptability (2.60). It implied that the in-service teachers reported their highest frequency of teaching practice with technology for social interaction during their online training program compared to community engagement and ecological adaptability.

This section also reported the EFL in-service teachers' perceptions of technology integration using sociocultural approach theory from social interaction, community engagement, and ecological adaptability perspectives.

Table 2

In-Service Teachers' Social Interaction Perspective of Digital Integration in L2 Teaching

	N Statistic	Min Statistic	Max Statistic	Mean	Std. Deviation
The teachers involve their students to interact with members of the opposite sex related to L2 learning using technology.	240	2.00	4.00	3.12	0.552
The teachers involve their students to accurately interpret and respond to other people's emotions in social media related to L2 topics (e.g., express empathy).	240	2.00	4.00	2.37	0.578
Teachers involve their students to interact at second language (L2) related events using technology (e.g., commenting YouTube, a blog post, sharing on Instagram).	240	3.00	5.00	3.59	0.599
The teachers involve their students to build and maintain relationships with students, teachers, and faculty members using technology through their L2 learning (e.g., connect via social media Facebook, Instagram, Twitter) Valid N (listwise)	240	3.00	5.00	4.28	0.659

Table 2 describes the results of the EFL in-service teachers' self-reported perceptions of technology integration under the social interaction category with four indicators. The in-service teachers' highest mean (4.28) indicator involved their students' building and maintaining relationships with students, teachers, and faculty members using technology through L2 learning. Meanwhile, the lowest mean (2.37) was the in-service teachers involved their students to accurately interpret and respond to other people's emotions on social media.

Next, the community engagement results with three indicators were elaborated.

Table 3

In-Service Teachers' Community Engagement Perspective of Digital Integration in L2 Teaching

	N Statistic	Min Statistic	Max Statistic	Mean	Std. Deviation
Teachers involve their students to dealing with the bureaucracy (e.g., modifying L2 learning software, course content, tests).	240	2.00	4.00	2.28	0.520
Teachers involve their students to attend or participate in second language community activities using technology (e.g., participating in an online discussion forum, webinar).	240	2.00	4.00	2.65	0.573
The teachers involve their students to obtain community services (e.g., becoming the member of learner association, forum, community).	240	2.00	4.00	2.28	0.487
Valid N (listwise)					

Table 3 describes the results of the EFL in-service teachers' self-reported perceptions of technology integration under the community engagement category with three indicators. The highest mean (2.65) was *the in-service teachers who involved their students in attending or participating in the second language community.* Conversely, the lowest mean (2.28) was *when teachers were involved in obtaining EFL community services.*

The last survey results dealt with the ecological adaptability category with four indicators described below.

Table 4.

In-Service Teachers' Ecological Adaptability Perspective of Digital Integration in L2 Teaching

	N Statistic	Min Statistic	Max Statistic	Mean	Std. Deviation
The teachers involve their students to create, read, and write digital texts (e.g., reading, writing, evaluating, posting news from different cultural contexts)	240	2.00	4.00	2.82	0.593
The teachers involve their students to adapt to the pace of life (e.g., connect to global L2	240	2.00	3.00	2.28	0.451

context via technology)					
The teachers involve their students to find their way around to solve cultural issue via technology (e.g., online negotiation)	240	2.00	4.00	2.23	0.471
The teachers involve their students to understand and speak using host language (e.g., making and uploading a YouTube video for cross-cultural context)	240	2.00	5.00	3.13	0.646
Valid N (listwise)					

Table 4 describes the results of the EFL in-service teachers' self-reported perceptions of technology integration under the ecological adaptability category with four indicators. The highest mean (3.13) was the in-service teachers' understanding and speaking using the host language using technology. Conversely, the lowest mean (2.23) was the teachers involved their students to find their way around to solve the cultural issue via technology.

Research Question 2 (RQ2): How do the in-service EFL teachers implement the sociocultural approach using technology during the online teacher training program?

4.1.1 In-Service Teachers' Social Interaction Perspective of Digital Integration in L2 Teaching

During the interview with the in-service EFL teachers, from the four categories of social interaction perspectives (maintain a social relationship, L2 events, respond to L2 topics, and interact with different gender through technology), the majority of the in-service EFL teachers' practices laid on involving their students to interact with their classmates, friends, and teachers using technology (N = 60). The rest of the interviewed participants asserted that they involved their students in collaborating with different gender in a technology-based discussion (N = 57).

"I gave my students essay writing tasks, which were quite difficult. Therefore, I let all my students text their classmates, friends from different schools, and teachers to do their homework. For me getting help from other people would make them smarter (Teacher 57)."

"When I gave homework to my students, I always asked them to work collaboratively with their friends using WhatsApp groups or other media (Teacher

29).''

"In a group discussion, I always classified the group's members based on their English performance and gender. I put the intelligent students in every group to help other students, and I combined male and female students in a group to practice good communication and understanding between them (Teacher 27)."

"In a speaking class, I often asked the students to make a conversation video like to make introductions in pairs between males and females (Teacher 12)."

4.1.2 In-Service Teachers' Community Engagement Perspective of Digital Integration in L2 Teaching

From the three categories of community engagement perspectives (involvement in an L2 community, forum, and modifying L2 online English material/course), it seemed that the majority of the in-service EFL teachers' practices laid on involving their students in participating in second language community through online discussion, webinar, and workshop in L2 topics (N = 52).

"My school had an English debate and storytelling club. We often send our students to participate in English competitions held by different universities. Therefore, every time prepare for those competitions. Our school had ever become one of the winners in a debate competition held by private universities in Gresik (Teacher 46)."

"One of the students in my school had ever become the winner of spelling bee and debate competitions conducted at one of the public universities in Malang. Although the students did not regularly attend the English club, we often helped them prepare for annual English competitions (Teacher 09)."

"My students participated in English club from school extracurricular incidentally to prepare them to join English competitions (Teacher 60)."

4.1.3 In-Service Teachers' Ecological Adaptability Perspective of Digital Integration In L2 Teaching

From the four categories of ecological adaptability perspectives (speaking in the host language, solving cultural issues, creating and posting news using technology), it seemed that the majority of the in-service EFL teachers' practices laid on involving

their students to participate in the classroom using mixed languages during online learning (N = 50). The rest of the group participants asserted that they involved their students in creating, writing, and posting digital projects (N = 53).

"In my speaking class, I usually allowed my students to speak using mixed languages; in this case, they combined Bahasa and English when they got stuck on expressing their idea (Teacher 17)."

"I also allowed my students to speak in Bahasa in reading class when they had problems saying English words (Teacher 02)."

" After school vacation, all language teachers assigned the student to narrate their vacation with their photos and asked them to put them on the school website and wall magazine. They created their story as they liked (Teacher 30)."

"I usually asked my students to upload their speaking projects, primarily when I taught them procedure text. They had to explain how to make something and record and upload their works on YouTube to get comments from audiences (Teacher 23)."

5. Discussion

While previous researchers neglected the existence of a theoretical framework in digital literacy practices in the L2 context, this study tried to explain the current perceived concerns in in-service EFL teachers' digital technology practices using three sociocultural frameworks of social interaction, community engagement, and ecological adaptability in L2 teaching and learning during their online professional development. Among the three categories of a sociocultural approach, the in-service EFL teachers had the highest level of social interaction using technology than two other categories of community engagement and ecological adaptability. It implied that during online teaching practice as part of their online professional development program, they reported that their EFL teaching with digital technology was implemented for social interaction purposes.

Under the umbrella of the social interaction dimension, these findings corroborated previous studies proposed by Rowsell and Pahl (2015) and Tour (2020), which claimed that learning a target language could be facilitated through real interaction with people from various cultures. Specifically, under the specific indicators of this dimension, it was also found that social interaction was limited to the EFL context. It was reported that the in-service EFL teachers did not extend their

students' social interaction to a broader cultural context in an actual target situation. The student's social interaction using technology was minimal within school and classroom contexts with a monoculture situation. Most of the in-service EFL teachers did not facilitate their students to socially interact using social media to practice, communicate, and respond to the authentic target culture, which can be conducted through Instagram, Facebook, Twitter, or other mobile applications. Consequently, this study reported different results from the previous studies regarding specific interaction practices using digital technology echoed from the Indonesian online professional training context. Regarding this issue, digital technology, such as mobile applications, can be explored to facilitate English language learning in the actual situation, context, and audience (Gee, 2005; Hafner et al., 2015; Tour, 2020; Wilson et al., 2017).

The subsequent discussion dealt with ecological adaptability, which has a medium level of perceptions from the in-service EFL teachers attending online professional training. Under this section, the results showed that some in-service EFL teachers involved their students in ecologically supported L2 activities, such as creating and posting their English projects on a YouTube, Facebook, and Instagram to get comments and notes from others as essential learning sources. Learning activities using relevant social media and mobile applications could foster EFL students' learning motivation, confidence, and acquisition. Regarding this phenomenon, social media and other digital applications can enhance teaching quality if implemented well (Arifani et al., 2020; Barrot, 2020; Dashtestani, 2016; Reynolds & Kao, 2019). Although the in-service EFL teachers have tried to connect their learners to the global L2 contexts, the sociocultural practices are far from ideal because most teachers do not assign the students to engage in the broader target culture. Therefore, the ecological practices to respond to global cultural issues on social media, such as commenting English speaking learners on YouTube, Instagram, Facebook, and Twitter, are deemed necessary for future online training programs within the Indonesian EFL professional program.

Establishing students' confidence became another finding of the study. This issue was related to the subordinate role of the in-service EFL teachers in facilitating their students to interact and integrate with the actual target culture using technology. The teachers should be aware of this issue. Establishing students' confidence to integrate and negotiate meaning can be done by facilitating their students to send emails or discuss a particular issue with native English-speaking students from different

cultures. This simple activity can establish their confidence and negotiation skills and promote cultural exchange, which will benefit them in the future. Regarding these ecological issues, Tour (2020) and Wilson et al. (2017) suggest that EFL teachers should be familiar with global EFL issues existing from digital media and integrate their learners in culturally rich exposures.

The last discussion dealt with community engagement perspectives. This part discussed the low perceptions of the in-service teachers regarding their L2 teaching activities by applying community engagement during the online teacher training program. Most EFL teachers involved their students in L2 communities but were limited to their school extracurricular due to irregular English competitions held by several universities. Creating an online English community at schools is crucial as a venue to facilitate and enhance learners' English language ability and critical thinking skills. School debate groups offer the students speaking practice, argumentation, confidence, and critical thinking skills. Iman (2017) and Oros (2007) argued that debate activities could encourage learners' active learning and critical thinking skills. English competitions held by universities also motivate the learners to practice their English, which can be used to measure their English capabilities compared to other students from different schools. English clubs at schools and competition providers are two mutual symbioses because they could support students' English mastery.

In this part, the researchers also found another finding: attending L2 online academic forums such as webinars, workshops, guest lectures, and other relevant communities. These findings support Kol and Schcolnik's (2008) research within the English Academic Purposes (EAP) context. They argued that English academic forums in EAP could support their academic quality. English academic online forums at secondary schools are relatively sparse than at universities. Therefore, learning from university L2 academic online forums since high school is essential for students to widen their horizons and authentic experiences. L2 academic forums can also enrich their English which may not be obtained from their schools.

6. Conclusion

This study identified digital technology integration in EFL teaching using sociocultural perspectives from a group of Indonesian in-service EFL teachers attending the online professional development program. Additionally, the three dimensions of sociocultural theory appeared to be partially applied during the online

training program, and some essential variables regarding global cultural issues were not reflected optimally in training. Teaching English as a foreign language through technology is not just transferring the content course into the technology, but it should reflect the sociocultural perspective where language is used to communicate and integrate meaning in the actual cultural context. With their crucial roles, EFL teachers should be equipped with sociocultural theories and practices to facilitate the learners' global cultural experiences through social media applications. They should learn how to engage their students in various cultural events and communities when teaching English using technology, such as asking the students to comment on your tube, send an email or make friends with other students from different countries.

Although there has been sufficient focus and support on teaching English using technologies, there are limited practical guidelines and theoretically informed resources that help EFL teachers teach English using digital technologies systematically and comprehensively. This paper explains how EFL teachers can provide careful sociocultural, technical, and linguistic scaffolding for EFL students to prepare them for meaningful, contextual, and critical practices with digital technologies in EFL pedagogy. This research offers a worthwhile contribution to the use of sociocultural approaches in the field of language education. Finally, we recommend that further researchers develop a comprehensive model of sociocultural practices in EFL teacher education and training programs using relevant digital technologies.

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About the Authors

Nur Hidayat is currently a Doctoral student of Language and Literature Education at Universitas Negeri Surabaya. His research interests are English skills and Technology Integration in ELT. He can be found at saujiruseta@gmail.com

Slamet Setiawan is a Professor in the English Department of Universitas Negeri Surabaya. He obtained his BA in English Language Teaching at Universitas Negeri Surabaya. He completed his MA at the University of Auckland, New Zealand, and his Ph.D. at the University of Western Australia (both in Linguistics). His educational background leads him to be interested in Linguistics and Applied Linguistics (English Language Teaching). He can be reached at slametsetiawan@unesa.ac.id.

Syafiul Anam is an Associate Professor in English Department of Universitas Negeri Surabaya, Indonesia. He obtained his Ph.D. at the University of Canberra, Australia. His research interests are Self-regulation and Assessment. He is available at syafiul.anam@unesa.ac.id