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A Model for the Mediating Role of Knowledge Sharing in the Relationship between EFL Learners' Online Peer-Written Feedback and Reflectivity in Writing Skill

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Abstract

Collaborative learning and knowledge sharing are important concepts in academia that facilitate the process of teaching and learning to write. Educators are more adept at providing constructive feedback due to technology integration in writing courses. While collaborative learning has been examined in the EFL environment, the investigation of information sharing remains nascent. The correlation between online peer feedback and knowledge sharing remains unexamined. Considering the benefit above, the purpose of this study is twofold. The researchers examined the relationship between EFL learners' online peer feedback, their knowledge sharing, and their reflections on writing. Moreover, they investigated if knowledge sharing mediated the relationship between EFL learners' online peer feedback and reflection on writing. Based on convenience sampling, 183 EFL learners were recruited from different branches of a language school. The study used three questionnaires, including EFL learners' attitudes toward online peer-written feedback, learners' knowledge sharing, and reflection on writing. The Pearson Correlation coefficient was run to examine the relationship between EFL learners' online peer feedback and their knowledge sharing and the relationship between EFL learners' knowledge sharing and reflection on writing. A path analysis was employed to assess the mediating role of knowledge sharing. The study found a significant relationship between EFL learners' online peer feedback and their knowledge sharing and EFL learners' knowledge sharing and reflection on writing. It was revealed that knowledge sharing mediates the relationship between EFL learners' online peer feedback and reflection on writing. Implications and further suggestions for researchers are discussed.

Keywords: Mediation, knowledge sharing, online peer feedback, reflective thinking

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Volume 3. Issue 1. March 2025. Pages 24 to 43.

Introduction

Writing appears complex to native and non-native learners alike since each writer or author is expected to find a balance among numerous aspects of his or her writing, such as audience, content, purpose, organization, mechanics, and vocabulary (Jahin & Idrees, 2012). As a result, writing skills become extremely difficult for learners when learning EFL because the language is not employed in practical or real-life situations. In a country like Iran, where English is regarded as a foreign language, for example, developing English language writing skills is not given due importance. As a result, the English curriculum used at colleges is still a traditional one. Although the Iranian government has approved and updated the EFL syllabus and textbooks for teaching and learning English, writing skills have not been given much attention. The focus of the syllabus and textbooks is mostly on reading ability, vocabulary, grammar, listening, and speaking (Sharafi-Nejad et al., 2016). A ray of hope is the use of online education, which has been at a rapid pace since COVID-19 afflicted the country. This provided a suitable condition for collaborative learning in the educational context.

Learning is considered more productive and effective if it takes place in interaction and collaboration with other learners. Collaborative learning, in general, and collaborative writing are important educational concerns. Collaborative writing (Dubé, Bourhis, & Jacob, 2006) is a form of knowledge sharing in which students exchange and construct knowledge as they develop material. Reflection, knowledge sharing, and critical thinking flourish in such an environment (Sukirman, 2016). What is more exciting in this aspect is the rapid rise of online technologies like Web 2.0, which have opened up new ways to co-create knowledge through engagement during the writing process. Learning can be transformed and supported by Web 2.0 technologies (Ebadi & Rahimi, 2018). They give writers collaborative editing tools and make it easier to participate innovatively (Ebadi & Rahimi, 2017). Since Web 2.0 technologies support the processes and, at the same time, contexts of learning, they can provide opportunities for collaboration and knowledge construction (Burden, 2012). Meanwhile, communication tools can affect knowledge sharing (Veerman & Veldhuis-Diermanse, 2001).

As to the impact of knowledge sharing on reflective thinking, it has been suggested that knowledge sharing may have an impact on learners' higher-order thinking (Ricci, 2009). The literature (Lipman, 1991) supports this theory, claiming that social contact and scaffolding influence learners' mental growth and higher-order thinking (Vygotsky, 1978). It is not surprising because scaffolding, which is defined as "breaking up the learning into chunks and providing a tool, or structure, with each chunk," facilitates L2 learning and takes place within the learner's Zone of Proximal Development (ZPD), which is defined as "the distance between the actual developmental level as determined by independent problem solving and the level of

potential development as determined through problem-solving under adult guidance" (Vygotsky, 1978, p. 86).

Collaborative learning and knowledge sharing are important concepts in academia. Although collaborative learning has been extensively studied in the EFL context, the study of knowledge sharing is in its infancy. The relationship between online peer feedback and knowledge sharing has not been studied. Meanwhile, the relationship between knowledge sharing and reflectivity in writing has not been given due attention. At the same time, the relationship between online peer-written feedback and reflectivity in writing, to the researcher's knowledge, has not been well researched, although a few studies have probed the effect of peer review on reflective thinking (e.g., Boase-Jelinek et al., 2013; Pham & Trinh,2020; Noroozi & Hatami, 2019) or critical thinking (e.g., Ekahitanond, 2013). Therefore, the present study was conducted to address this research lacuna.

In recent decades, research on reflective practice has proliferated. However, little is known about the possible effect of learners' knowledge sharing on their reflection on writing. Furthermore, few studies have explored the possible relationship between online peer feedback and learners' knowledge sharing. Accordingly, the present study was set out based on the assumption that online peer feedback may stimulate EFL learners' scaffolding and that may affect their zone of proximal development. This, in turn, may result in learners' knowledge sharing. Learners' knowledge sharing is presumed to influence their reflection on writing. Accordingly, the following research questions were formulated.

- Is there any significant relationship between EFL learners' online peer feedback and their knowledge sharing?
- Is there any significant relationship between EFL learners' knowledge sharing and reflection on writing?
- Does knowledge sharing mediate the relationship between EFL learners' online peer feedback and reflection on writing?

Literature review

Writing has always been considered a fundamental skill in education and is regarded as a skill that has diverse benefits for learners in the high-tech world. Success in academic areas, communication, and self-expression is, to a great extent, dependent on the mastery of these skills. Writing in Foreign Language (FL) learning, being no exception, is more than a means of communication since it can help learners learn the FL; however, the writing skill has not been given the due importance it deserves. As a very complex skill, both in first or FL, researchers need to offer their valuable research insights as to the nature of the writing skill and investigate the FL writers' thinking process underlying it. For a long time, writing was considered to be a product-oriented skill in

which the final product was valued to a great extent. Based on the product-oriented approach, mechanical aspects involved in writing were appreciated, correctness was highly valued, and mistakes were not tolerated. However, under the influence of cognitivism, education received a great emphasis on experiential learning (Gold et al., 2012) and problem-solving (Mohanty, 2007). As Hairston (1982) claims, there has been a move toward process-oriented theories of writing, which is a paradigm shift in composition theory. In the new paradigm, according to Hairston, writing is regarded as a recursive process rather than a linear one; learners are expected to learn writing strategies, and teachers are aware of the process of writing. From the new perspective, writing is viewed as a process of creating meaning in which the writer gets involved in the recursive process of preparing the draft, revising, and checking. Meanwhile, attention is drawn to higher-order thinking processes such as metacognition, critical thinking, and reflective thinking.

Reflection, as Dewey (1933) explains, is a kind of problem-solving activity that includes "active chaining, a careful ordering of ideas linking each with its predecessors" (Hatton & Smith, 1995, p. 33). In this regard, Asakereh and Yousofi (2018) believe that success in learning depends on reflective thinking. As they put it, reflective thinkers, to a large extent, are conscious of what they are learning, regularly monitor what they know for the time being and what they should know, and recognize how to put these two together (Darling-Hammond et al., 2020). As Dewy further explains, reflective thinking is an "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends" (Dewey, 1993, p.118). Regarding the processes involved in reflective thinking, Loughran (1996) explains that reflective thinking includes hypothesis, reasoning, and testing. Accordingly, reflective writing is applying reflectivity in writing.

In the Iranian ELT curriculum, writing skills are underdeveloped, and of all skills, reading has been the most unprivileged one (Atai & Mazlum, 2013). Even in private language schools, the situation is not much different, although they tend to use interactive activities and have less emphasis on writing skills (Avarzamani & Farahian, 2019). The orientation towards the skill is product-oriented. In the Iranian EFL context, the prevalent assumption in the educational system is that writing skills are equal to grammar and vocabulary learning, and by so doing, the important role of cognitive processes in writing has been overlooked. Accordingly, cognitive complexities in the processes of constructing a text are overlooked. This shows that writing is not regarded as a problem-solving task, and learners who rate writing as their least favorite skill (Avarzamani & Farahian, 2019) stick to a mere description and events to pass the course.

Another concept discussed in the present study is knowledge management. Knowledge sharing and knowledge management are terms that are frequently used

interchangeably in the literature, and some scholars tend to substitute knowledge sharing with knowledge management (Lee et al., 2010; Son et al., 2017). Although researchers disagree on what knowledge sharing entails, it can be defined as a subcategory of a knowledge management system in which attempts are made to transfer ideas, facts, expertise, and judgments from one source (knower) to the receiver in such a way that the receiver's existing knowledge repertoires are altered (Wei et al., 2012). Runhaar and Sanders (2015) explain that "knowledge sharing is a learning activity with which teachers not only professionalize themselves but contribute to the professional development of their colleagues as well" (p. 1).

In recent years, the role of technology in educational settings has been highlighted, and various technological tools such as laptops, computers, digital cameras, and software applications in education have found their way into the teaching and learning process (Schindler et al., 2017). By using technological tools and programs for teaching grammar, vocabulary, pronunciation, and language skills, EFL teachers provide a suitable learning environment for learners. Furthermore, EFL learners can practice four language skills and, at the same time, engage in an interactive process (Nomass, 2013). Interactive programs that provide more authentic and task-based activities being created are in line with the current theoretical and pedagogical views of learning (Singhal, 1996). In addition, digital technologies can provide both synchronous and asynchronous communication, so there is a wealth of opportunities for EFL learners to practice language skills. This can provide an opportunity for learning and practicing writing in a foreign language through online peer feedback from the EFL learners.

In the past two decades, peer feedback in EFL writing has received much attention in the literature. There have been compelling arguments made in support of PF, particularly about the advantages of peer feedback versus traditional teacher feedback. (see Parthasarathy, 2014)

Peer feedback is a process in which one learner provides feedback to another. It offers learners the chance to gain insights from one another. Upon completing a writing assignment, before submitting it for grading, learners must collaboratively review each other's work and provide feedback to their peers. Feedback from colleagues is referred to as peer feedback. Peer feedback may consist of corrections, comments, suggestions, or ideas exchanged among individuals. Peer feedback ideally constitutes a reciprocal process wherein individuals collaborate (Farrah, 2012).

Method

Design

This study addressed the research hypotheses using a quantitative and correlational design. The quantitative data was collected through three questionnaires and then analyzed using descriptive and inferential statistics.

Volume 3. Issue 1. March 2025. Pages 24 to 43.

Participants

As the participants of the study, 183 EFL learners (117 females and 66 males) were recruited. The respondents' ages ranged between 23 and 48 years, and based on Safir Language Academy's report, they were considered roughly upper-intermediate EFL learners. The participants were preparing themselves for the International English Language Testing System (IELTS) examination in four branches of Safir Language Academy under the supervision of the central office located in Tehran. The branches were Engelab, Narmak, Yosef Abaad, and Tajrish. In general terms, as part of the course, the instructors aimed to develop learners' ability to write tasks 1 and 2. The learners were chosen from Safir Language Academy because, in the wake of COVID-19, all courses were online, and instructors practiced collaborative writing using Google Docs for the whole term. All learners were ascertained that their data would be confidential.

Instruments

The data was obtained using three distinct pieces of equipment.

EFL learners' attitudes towards online peer-written feedback

The researcher developed a survey utilizing a 5-point Likert scale to investigate learners' attitudes and experiences regarding online peer-written feedback. The survey comprised 15 items organized into four subscales: instructional, interactional, reflective, and affective. The Likert scale ranged from strongly disagree to strongly agree accordingly. Following the initial draft of the scale, four experts were consulted to evaluate the items, leading to subsequent revisions of the scale.

Learners' Knowledge Sharing

The researcher utilized the scale created by Wangpipatwong (2009) to investigate the online knowledge-sharing behavior of EFL learners. The instrument comprises 21 items, employing a five-point Likert scale that ranges from "Strongly Agree" to "Strongly Disagree." The subscales encompass willingness to share, ability to share, instructor support, level of competitiveness, technology availability, technical assistance, and knowledge sharing.

Reflection on Writing Questionnaire (RWQ)

To prepare the researcher-made questionnaire, the researcher employed the scale developed by Farahian and Avarzamani (2019). The items of the RWQ aim to find out whether the learners critically evaluate and make connections between the given

experiences and their own, whether they can put forward their thoughts about their experiences, and whether they can analyze and evaluate the given topics.

Data Collection

The study was conducted in Iran during the 2022 academic year. The population included 183 upper-intermediate EFL learners from four branches of Safir Language Academy. It should be stated that as part of the course requirement, the learners were using Google Docs to practice writing skills. The data for the study was collected through three questionnaires. Because of the COVID-19 lockdown, the researcher did not have direct access to participants; as such, questionnaires were distributed via Google Forms. Informed consent was obtained from the participants, who were assured that their personal information would remain confidential (Ary et al., 2018). Then, the data derived from Google Forms was uploaded to SPSS 23 for analysis. A structural equation model of three latent variables (attitude to collaborative digital writing, online knowledge sharing, and reflective writing) was conducted to analyze the data.

Data Analysis

The study utilized correlation analysis to assess the data, as this method investigates the degree to which two metrics co-vary. The researchers examined the correlation between EFL learners' online peer feedback and their knowledge sharing via a 15-item survey. Furthermore, the correlation between EFL learners' knowledge sharing and their reflective practices in writing was investigated using a 21-item questionnaire delivered online. The third questionnaire examined whether knowledge sharing mediates the relationship between EFL learners' online peer feedback and their reflection on writing. Upon completion of the questionnaires by the participants, the researchers articulated the items in both positive and negative phrasing, subsequently reversing and reverse-coding them prior to assessing their reliability (Larson-Hall, 2015; Pallant, 2011).

Results

The first research question inquired if there is any significant relationship between EFL learners' online peer feedback and their knowledge sharing. The Pearson correlation matrix was used to answer this question. The results of this test are shown in Table 1.

Table 1.

Correlations of Online Peer Feedback Subscales with Knowledge Sharing

	1	2	3	4	5	6
1. Knowledge sharing	1	.535**	.589**	.453**	.506**	.734**
		.000	.000	.000	.000	.000

2. Instructional	.535**	1	.297**	.314**	.324**	.632**
	.000		.000	.000	.000	.000
3. Interactional	.589**	.297**	1	.329**	.380**	.698**
	.000	.000		.000	.000	.000
4. Reflective	.453**	.314**	.329**	1	.271**	.698**
	.000	.000	.000		.000	.000
5. Affective	.506**	.324**	.380**	.271**	1	.755**
	.000	.000	.000	.000		.000

**. Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 1, with 99% confidence, there is a significant relationship between EFL learners' online peer feedback subscales, including instructional, interactional, reflective, and affective knowledge sharing. On the other hand, the value of these relationships (intensity of correlation), which is between 0.453 and 0.589, is direct (positive) and moderate.

Table 2.

Correlations of online peer feedback with knowledge sharing

		Knowledge sharing	Online peer feedback
knowledge sharing	Pearson Correlation	1	.734**
	Sig. (2-tailed)		.000
	N	183	183
online peer feedback	Pearson Correlation	.734**	1
	Sig. (2-tailed)	.000	
	N	183	183

**. Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 2, with 99% confidence, a significant relationship exists between EFL learners' online peer feedback and knowledge sharing (P.= 0.000). On the other hand, the value of these relationships (intensity of correlation), which is 0.734, is direct (positive) and strong.

Employing multiple linear regression, the researchers evaluated the relationship between the independent variables, i.e., EFL learners' online peer feedback with knowledge sharing. The results of this test are shown in Tables 3 to 6. The output of three Tables is used to interpret multiple regression, the most important statistic of which is evaluated here.

Table 3.

Explanations of Knowledge Sharing Dependent Variable Changes

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.752	0.566	0.556	0.46292

According to Table 3, the value of the correlation coefficient (R) between the variables is 0.752, which indicates that there is a relatively strong correlation between the set of independent variables, including instructional, interactional, reflective, and effective, with the knowledge-sharing variables. R^2, which is equal to 566, shows that 56% of the total knowledge-sharing changes depend on these four independent variables mentioned in this equation. In other words, a set of four independent variables (instructional, interactional, reflective, and affective) predicts more than half of the variance of knowledge sharing. The second output of the regression analysis is ANOVA, as shown in Table 4.

Table 4.

Analysis of Variance of Regression Model between Independent Variables and Knowledge Sharing (ANOVA)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	49.702	4	12.425	57.984	.000
	Residual	38.144	178	.214		
	Total	87.845	182			

According to Table 4, the value of F (57.984) and the level of significance obtained (Sig. = 0.000) at the level of error less than 0.05, the study's regression model consisting of four variables (instructional, interactional, reflective, and affective) is a good model and a set of independent variables. They were able to explain the changes in knowledge sharing.

The following Table shows the results of each variable's effect in the model and the degree of correlation between them. The results of this output are shown in Table 5.

Volume 3. Issue 1. March 2025. Pages 24 to 43.

Table 5.

Statistics of Coefficients of Regression Model of Independent Variables (Coefficients)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.195	.214		.913	.363
	instructional	.345	.063	.300	5.502	.000
	interactional	.345	.054	.355	6.368	.000
	reflective	.147	.044	.181	3.341	.001
	affective	.161	.039	.225	4.067	.000

As depicted in Table 5, the separate power of each of the four factors derived from the factor model shows the explanation of the dependent variable changes. The standardized beta coefficient indicates the significant level of values related to each factor; there is a significant direct and positive relationship between each of the extracted factors separately with knowledge sharing. According to the values of standardized coefficients, among the four factors, interactional, with an impact factor of 0.355, has the most role, and reflective, with an impact factor of 0.181, has the least role in explaining the changes in knowledge sharing.

The second research question sought to determine whether there is a significant relationship between knowledge sharing and reflection on writing. The Pearson correlation matrix was used to answer this question. The results of this test are illustrated in Table 6.

Table 6.

Correlation of Knowledge Sharing and Reflection on Writing

		Reflection on writing	Knowledge sharing
Reflection on writing	Pearson Correlation	1	.806**
	Sig. (2-tailed)		.000
	N	183	183
Knowledge sharing	Pearson Correlation	.806**	1
	Sig. (2-tailed)	.000	
	N	183	183

**. Correlation is significant at the 0.01 level (2-tailed).

According to Table 6, with 99% confidence, there is a significant relationship between knowledge sharing and reflection on writing (P = 0.000). On the other hand, the value of this relationship (intensity of correlation), which is 0.806, is direct (positive) and at a very strong level (r= 0.806).

Table 7.

Statistics of Coefficients of Regression Model of Independent Variables (Coefficients)

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.396	.182		-2.174	.031
	Knowledge Sharing	1.093	.060	.806	18.305	.000
R= 0.860	R^2= 0.649	F= 335.066	Sig.= 0.000			

According to Table 7, the value of R obtained is equal to 0.860. That is, the Pearson correlation between the predicted values and the actual value of the dependent variable is 0.86. A coefficient of R^2 indicates that this variable explains approximately 65% of the variance of the dependent variable, i.e., reflection on writing. Also, the value of F equals 562/452 indicates that the variance of reflection on the writing variable can be explained by the predictor variable, namely Knowledge Sharing. The standardized beta coefficient of the usage variable ($\beta = 0.806$ and $t = 18.305$) indicates that this variable explains the changes 80.6 present related to reflection on writing.

The third research question explored whether knowledge sharing mediates the relationship between online peer feedback and reflection on writing. Path analysis was used to answer this question, and the results can be found in Figure 1 and Tables 8 and 9.

Volume 3. Issue 1. March 2025. Pages 24 to 43.

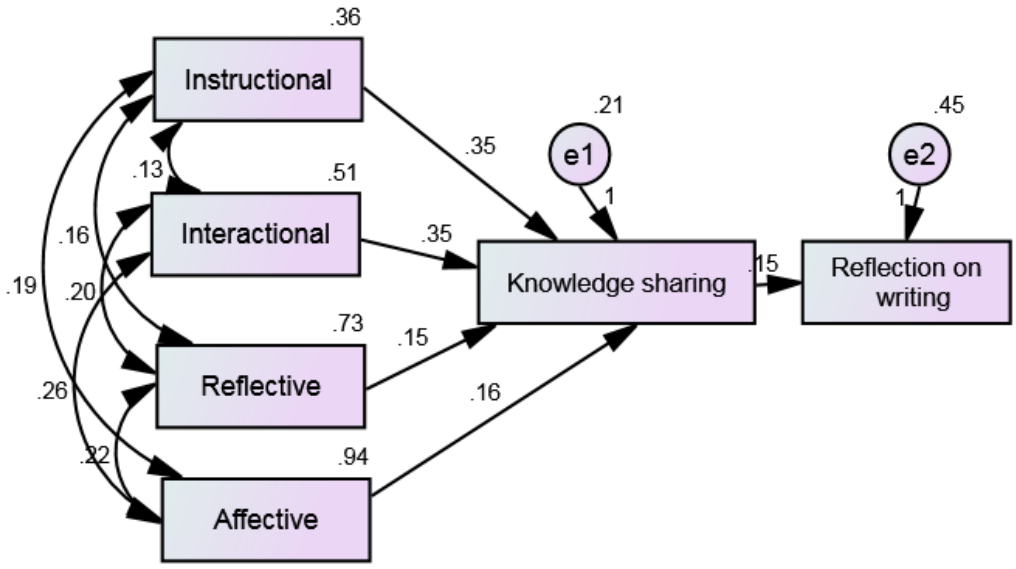

Figure 1. Model research

Table 8.

Model Fit Indices for the Measurement Model

Model fit indices	Recommended Value	Measurement Model
(χ^2) (CMIN)		6.191
Df		4
X2/df	<3	1.548 (P.= 0.185)
The goodness of Fit Index (GFI)	>0.90	.989
Adjusted Goodness of Fit Index (AGFI)	>0.80	.942
Root Mean Square Residual (RMR)	<0.05	.017
Normed Fit Index (NFI)	>0.90	.975
Comparative Fit Index (CFI)	>0.90	.991
Incremental Fit Index (IFI)	>0.90	.991
Tucker-Lewis Index (TLI)	>0.90	.965
Root Mean Square Error of Approximation (RMSEA)	<0.05-0.08	.055

According to Table 8, all absolute fit indices, relative fit indices, and parsimonious fit indices are in good condition. These indicators include X2/df and P. 1.548.185, goodness of fit index (GFI) = 0.989, adjusted goodness of fit index (AGFI)= 0.942, root mean square residual (RMR)= 0.017, normed fit index (NFI)= 0.975, comparative fit index (CFI)= 0.991, incremental fit index (IFI)= 0.991, Tucker-Lewis index (TLI)= 0.965, and root mean square error of approximation (RMSEA)= 0.055. This result indicates that the model is a good fit.

After confirming the research model and examining its fit, the question arises of whether knowledge sharing can mediate reflection on writing. Direct and indirect effects were used to answer this question. The results of this study are shown in Table 9.

Table 9.

Standardized Loadings for Direct, Indirect, and Total Effects

Predictor	Criterion	Direct effects	Indirect Effect	Total Effect
Instructional	Knowledge sharing	.345	.000	.345
Interactional	Knowledge sharing	.345	.000	.345
Reflective	Knowledge sharing	.147	.000	.147
Affective	Knowledge sharing	.161	.000	.161
Instructional	Reflection on writing	.000	.051	.051
Interactional	Reflection on writing	.000	.051	.051
Reflective	Reflection on writing	.000	.021	.021
Affective	Reflection on writing	.000	.023	.023
Knowledge sharing	Reflection on writing	.146	.000	.146

According to Table 9, four variables, instructional, interactional, reflective, and affective, were able to affect the variable reflection on writing through the mediation of knowledge sharing.

Discussion

As mentioned earlier, the present study probed whether EFL learners' online peer-written feedback scale is a valid and reliable questionnaire. After a CFA process, the findings established the construct validity of the scale. The Cronbach's alpha coefficient also revealed an acceptable level of reliability. As already stated, there are four subscales in the questionnaire, namely, instructional, interactional, reflective, and affective. The findings are in line with Farahian and Ebadi (2022), who proposed and developed a

survey based on a 5-point Likert scale to investigate the attitudes and experiences of TEFL learners toward collaborative digital writing. The scale included 15 items comprised of instructional, interactional, reflective, and affective subscales. After exploratory factor analysis, the authors reported an acceptable level of reliability and validity for the scale. Since no other study similar to the researcher's knowledge has been conducted in this regard, comparing and contrasting the findings is not possible.

In addition, as its third research question, the present study explored if there is any significant relationship between EFL learners' online peer feedback and their knowledge sharing. A Pearson correlation matrix was used to answer this question. The study found a significant relationship between EFL learners' online peer feedback subscales, including instructional, interactional, reflective, and affective knowledge sharing. As findings revealed, it seems that online technologies, like Web 2.0, can open up new ways to co-create knowledge through engagement during the writing process. As such, learning can be transformed and supported by Web 2.0 technologies (Ebadi & Rahimi, 2018). Web 2.0 technologies give writers collaborative editing tools and make it easier for them to participate in innovative ways (Ebadi & Rahimi, 2017). Perhaps, since Web 2.0 technologies support the processes and, at the same time, contexts of learning, they can provide opportunities for collaboration and knowledge construction (Burden, 2012). Namely, communication tools can affect knowledge sharing (Veerman & Veldhuis-Diermanse, 2001). The concept of technologically enabled knowledge dissemination is a controversial issue (McDermott, 1999). On the one hand, some researchers contend that we cannot rely on technology to share and distribute knowledge (e.g., Malhotra, 1998) because technology "does not turn a knowledge hoarding organization into a knowledge sharing one" (Mohamed et al., 2006, p.107) and should only be viewed as a chance to change people's behavior. The opposing viewpoint, however, contends that knowledge management systems are crucial to the knowledge management procedure (Alavi & Leidner, 2001).

Additionally, it has been asserted that cooperative learning leads to the co-construction of knowledge (Jeong & Chi, 1997). The results are consistent with Sukirman's (2016) observation that writing cooperation may encourage information exchange. The results also support Krumova and Milanezi's (2014) hypothesis that collaborative technologies like Web 2.0 can enhance the information-sharing process. Online social media greatly affected learners' contact with teachers and peers, as well as online knowledge sharing, according to Ansari and Khan (2020), who studied the usefulness and application of social media in transferring resources and fostering learner interaction. In a similar vein, DeWitt et al. (2014) discovered that during collaborative writing, learners engage in information sharing.

Further, the fourth research question sought whether there is any significant relationship between knowledge sharing and reflection on writing. A Pearson correlation matrix was used to answer this question, and it was found that there was a significant

relationship between knowledge sharing and reflection on writing. This is in line with the literature that suggests that knowledge sharing may have a substantial impact on learners' higher-order thinking when it comes to reflective thinking (Ricci, 2009). Meanwhile, the literature (Lipman, 1991) supports this theory, claiming that social contact and scaffolding influence learners' mental growth and higher-order thinking (Vygotsky, 1978). This is not surprising because scaffolding facilitates L2 learning and takes place within the learner's ZPD. Namely, ZPD is defined as "the distance between the actual level of development as determined by learners' independent problem solving and the potential developmental level as identified through problem-solving in collaboration with more capable peers or under adult guidance" (Vygotsky, 1978, p. 86).

Additionally, the fifth research question explored whether knowledge sharing mediates the relationship between online peer feedback and reflection on writing. According to the results, all absolute fit indices, relative fit indices, and parsimonious fit indices are in good condition, which indicates that the model is a good fit. After confirming the research model and examining its fit, the question arose whether knowledge sharing can mediate reflection on writing. According to the findings, four variables- instructional, interactional, reflective, and affective- were able to affect the variable of reflection on writing through the mediation of knowledge sharing. As already stated, no study has investigated the mediating role of knowledge sharing in the relationship between online peer feedback and reflectivity in writing. It can be deduced from the findings that since learning is considered to be more productive and effective if it takes place in interaction and collaboration with other learners, collaborative writing is an important educational issue.

Based on the findings of the study, no matter whether the courses are online or face-to-face, teachers can create conditions and encourage learners to use web-based platforms for all their writing tasks and also their peer reviews and peer feedback. Besides being fun for them to write online, it is easy for all learners to have access to each other's writings for review and feedback. This platform can be the one already prepared, like "Google Docs," or it can be specifically planned and made by the educational institutes for their learners. No matter which one it is, learners must be given instructions on how to use the platform for effective and positive performance. If teachers are not well aware of how to use the web-based platform, proper instruction must be given to them, as well. Then, teachers can ask learners to review their peers' writings and give feedback on them. However, this must be done in a pre-planned and training-oriented process as follows: each time, the teacher should ask learners to give feedback regarding just one aspect of language (and explain how to do it properly and fruitfully). For example, in the first phase, tenses can be considered in their feedback. The next time, prepositions can be looked for to see if they have been used correctly and properly. Later, another aspect of language should be taken into consideration, and so forth throughout the course. It should also be mentioned that teachers must give proper training to learners so that their feedback is

positive and constructive. Otherwise, it is merely a waste of time besides being a dangerous practice because although some learners may have good knowledge, there is no guarantee they can give proper feedback to their peers.

Conclusion

Although the results of the present study showed that more online peer feedback leads to more knowledge sharing among learners, care must be taken to leave learners alone when doing this task without enough appropriate teacher monitoring. However, if monitored and trained by teachers regarding what to give in the feedback and how to do that, it would be a very useful practice for sharper learners to share their knowledge with the weaker ones. Besides, it can enhance sharper learners' self-confidence in sharing what they know with their peers and help them review what they know productively and collaboratively. It also helps both sharp and weak learners to become less dependent on the teacher and work with their peers who have minor learning issues. However, if not trained or not monitored, it would be dangerous as they might provide their peers with incorrect pieces of information through their feedback.

Similarly, when there is a significant relationship between knowledge sharing and reflection on writing, there is no guarantee that this knowledge sharing is always positive unless the sharper learner, who is going to share knowledge with the weaker one, has been specifically and properly trained for that purpose so that he/she provides the weaker learner with fruitful and useful pieces of information in a way that it affects the weaker learner's way of reflection on writing positively. Otherwise, if the sharper learner has not been trained or the sharing of knowledge is not monitored properly by the teacher, it might mislead the weaker learner by providing him/her with incorrect pieces of information, and to put it in a nutshell, it would lead to unwanted results and problems. It can be concluded that learners learn better if they work collaboratively and through interaction with each other (under the supervision of the teacher). This collaboration will lead to more productive, more fruitful, and more effective learning.

The implication regarding the findings of the present study is that reflective thinking does not develop overnight, and it needs constancy and long-term attempts. As Kember et al. (2000) highlighted, such an undertaking is contingent upon a basic change in perspective, which is difficult and takes time. On the other hand, critical reflection should not be delayed until the time that learners have developed their writing proficiency since changing their mindsets and habits would be difficult and time-consuming. If learners are given the chance to write portfolios early, even in their school years, they will have much time to improve their writing abilities and display their achievements (Lee, 2017). Another important implication of the results is that teachers must promote collaboration and interaction among learners by asking them to help each other with their writing tasks by giving feedback (monitored and trained). This way, they will learn to

depend more on each other and less on their teachers, which will enhance their self-confidence.

Like any other research, the present study was constrained by several factors. There were two sorts of limitations to this study. The first one was due to the inability to control all the factors influencing the relationship between the variables of the study. The second limitation addressed the number of samples in the study. As only 183 Iranian EFL learners were involved in the current study, the results would not be generalizable to all Iranian EFL learners. Based on the limitations of the present study, several suggestions can be presented for further research by those interested in this area. The same research can be done regarding the speaking skills of the learners and their peers who are giving feedback. Further research can be done regarding the effect of online peer feedback on learners' self-efficacy. Other research studies can be carried out with learners of lower and higher proficiency levels (intermediate and advanced).

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