LLT Journal, e-ISSN 2579-9533, p-ISSN 1410-7201, Vol. 27, No. 1, April 2024, pp. 136-156

LLT Journal: A Journal on Language and Language Teaching
http://e-journal.usd.ac.id/index.php/LLT
Sanata Dharma University, Yogyakarta, Indonesia

DIGITAL REFLECTIVE JOURNAL IN THE TRANSLATION CLASSROOM: DOES THE FORMAT CHANGE THE GAME?

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https://doi.org/10.24071/llt.v27i1.8132
received 4 February 2024; accepted 05 April 2024

Abstract
Reflection is considered an integral part of modern translation classrooms, particularly within the framework of the social constructivist paradigm. To enhance its effectiveness, students' reflective activities should be supported with appropriate tools. This paper aims to compare the effectiveness of two formats of digital reflective journals. A mixed-methods research was conducted involving 34 third-year undergraduate translation students, who were divided into two sample groups (SG). They were instructed to accompany their translation submissions with reflective journal entries, either in a MS Word document (SG1) or in a digital reflective journal application (SG2). The research results indicated a statistically significant difference in the translation proficiency levels of students in the two SGs. Reflective journaling using a specific application resulted in better translation performance and higher quality journal entries over the term. This study highlights alternative approaches to reflective journal writing in translation classrooms. Future research could explore the evaluation of journal entries using digital tools.

Keywords: application for reflective journaling, digital reflective journal, reflection, reflective journal, translation training

Introduction
Reflection is considered an essential component of modern translation training and assessment within the framework of social constructivist paradigm. It contributes to formative assessment by driving the enhancement of students' metacognitive and translation-specific skills, and provides a relevant foundation for justified self-assessment of their actual learning and translation performance as well as their outcomes. However, in order to fulfill these functions effectively, translation students' reflective activity should be thoroughly scaffolded and guided by the teacher with the help of relevant tools and procedures. Moreover, students should be given proper examples of how to reflect on and even trained to reflect in an appropriate way.

Modern translation pedagogy has at its disposal a plethora of developed and trialed reflective tools, including reflective pair/group discussions, reflective interviews, reflective checklists, reflective questionnaires, reflective essays, video- and audio-based reflective reports, reflective portfolios, blogs, and reflective journals. It is the latter that appears to be the most common and widely spread in

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translation and even interpretation training. Defeng (1998) was the first to introduce reflective journal writing in translation classrooms to align students' theoretical knowledge with their translation performance. Shih (2011), and Lee and Gyogi (2016) demonstrated the positive impact of guided reflective journal writing on students' translation competence levels in different contexts. Orlando (2012) developed a model of complex translation performance evaluation using reflective journals.

Despite their extensive discussion in research papers and studies, reflective journals are still cautiously used and underestimated in traditional translation trainings and instructions (Shih, 2011). This mainly occurs due to the lack of students' motivation to spend time and effort on journaling after their translation task performance, which is usually quite exhausting and time-consuming. Additionally, teachers may be unaware of how to process and employ the received journal entries for their students' benefits afterward. All of this urges translation teachers to search for new ways and formats of reflective journal writing that, on the one hand, enhance translation competence acquisition and, on the other, meet students' requirements and needs.

Accordingly, the current study aims to compare the effectiveness of two formats of digital reflective journals. The research questions are formulated as follows:

1) Does properly guided reflective journaling promote and facilitate students' translation competence acquisition in general?
2) Which format of digital reflective journal writing appears to be more favorable for the achievement of translation training objectives, development of students' relevant reflective skills and abilities, and appeals to their tastes more?

Literature Review

Reflection as a part and parcel of efficient learning

Reflection as a learning method was first suggested by Bateson in 1972 (Reynolds, 1999). As stated by Zimmerman (2000), it constitutes the final stage of self-regulated learning cycle, which includes: 1) *forethought*, which is responsible for goal-setting, planning, and learning strategy selection, 2) *task performance*, which is accompanied by self-monitoring aimed at ensuring that the intermediate outcomes match the final goals and correcting one's performance accordingly, and 3) *reflection*, dealing with the evaluation of the achievement of determined goals after task completion. These stages are closely interrelated, since reflection impacts students' further goal-setting, self-efficacy, and motivation to study and translate.

Reflection is commonly treated as the processes of considering, evaluating, and summarizing students' previous experiences for the sake of planning their further activities (Ryan, 2013). It plays an important role in fostering self-awareness and self-regulation, and promoting students' professional growth and development. Reflection requires conscious self-reporting on learning and translation processes, revising their outcomes, and identifying the reasons that contributed to success or shortcomings. The main difference between reflection and self-assessment is the absence of specific criteria against which to evaluate. Reflection is inherently descriptive rather than evaluative, as it is based on divergent thinking. In contrast, self-assessment involves targeted examination of one's performance with the aim

of enhancing it based on criteria-directed convergent thinking. Therefore, reflection is more passive and reactive, while self-assessment is more active and proactive (Desjarlais & Smith, 2011). All this underscores the importance of reflection as an essential foundation for adequate and effective self-assessment, requiring proper planning and arrangement in the translation classroom.

Reflection objects and mechanisms in the translation classroom

According to Pietrzak (2019), the implementation of reflection practice into translation training should adhere to the following guidelines: 1) clearly defining the object or specific aspects to be reflected upon, 2) providing a reflective role model, commenting on someone's experience of performing similar translation and reflective tasks, demonstrating how and why to reflect, and suggesting prompts to address, 3) contextualizing reflection by linking the current task horizontally with similar ones being performed in parallel and making vertical connections with previous experiences of similar activities, and 4) creating a comfortable and secure environment for students. To effectively implement these ideas, appropriate reflection tools need to be selected, and relevant procedures for their application in the translation classroom need to be developed. In this research context, the reflection object involves three main aspects, namely learning in general, translation performance as a process, and the target text as a translation product (Pietrzak, 2019).

In real life, reflection mechanisms can be initiated by various factors, such as discomfort caused by feelings of uncertainty or the need to overcome obstacles and tackle problems (Dewey, 1933), unexpected or sudden situations (Schön, 1983), and positive emotions and past successes in performing similar tasks (Boud, Keogh & Walker, 1985). Additionally, individuals can effectively initiate reflection themselves (Gibbs, 1988). These factors should be taken into consideration when designing a reflection model in a training environment.

Reflection stages and levels

As for the reflection process, Gibbs (1988) elaborated the most complete theory of a six-step reflection cycle supplemented with leading questions to be responded to, which is quite applicable to the development of guided reflection for translation students within this research (see Figure 1).

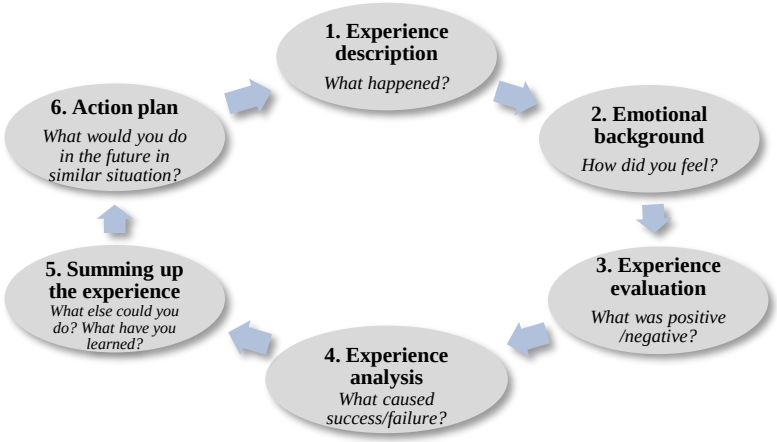


Figure 1. Reflection cycle by Gibbs (1988)

According to Ryan (2013), reflection occurs at four main levels, the consecutive achievement of which leads to learning and progress, namely 1) thoughtful reporting on the actions taken to complete the task, which involves describing experiences (Gibbs, 1988), 2) relating certain task aspects to the subject's available knowledge, skills, or previous experiences, which involves contextualizing reflection vertically (Pietrzak, 2019), 3) considering the task from the viewpoint of its importance and utility for translation competence development, which correlates with summarizing experiences (Gibbs, 1988), and 4) reframing and restructuring previous knowledge, adjusting developed skills in light of fresh concepts and ideas evolved as a result of reflection, which aligns with the action plan suggested by Gibbs (1988) to some extent. Therefore, reflection usually results in changes in subjects' attitudes towards situations and learning from their own experiences. Repetitive and iterative reflections urge students to make changes and adjustments in their learning and translation strategies, generating and trying new approaches and ideas at their own pace (Klimkowski, 2019). These provisions should be taken into account while developing the guidelines and prompts for students' reflection in the translation classroom as well as while designing the reflection practice model itself.

Ways of reflection practice implementation in contemporary translators' training

It should be acknowledged that reflection practices are gaining momentum in various aspects of contemporary foreign language teaching (Fakazli & Gönen, 2017; Pham, 2022; Salih & Omar, 2022; Susanti, 2023; Synekop, 2020), as well as in teachers' professional development (Ardi, Widyaningsih & Widiati, 2023; Dayal & Alpana, 2020; Dumlao & Pinatacan, 2019; Fraser, Wotring, Green & Eady, 2022; Ningsih & Lengkanawati, 2023; Nuraeni & Heryatun, 2021), and medical staff training (Olmos-Ochoa et al., 2021). These practices are gradually being adopted by translation and interpretation training as well.

Scholars have investigated the adoption of reflection in translation and interpretation trainings. Le (2023) designed a methodology for teaching reflective note-taking to prospective consecutive interpreters using online portfolios that required writing reflective entries on a weekly basis. Dangerfield and Napier (2016) reported on positive effect of training sign language interpreters to reflect on their performance with the help of guided interviews. Fernández and Zabalbeascoa (2012) examined the correlation between students' translation performance and the quality of their reflections collected with the help of post-translation metacognitive questionnaires designed to reflect on translation stages, applied strategies and solutions achieved. Pietrzak (2019) introduced pre- and post-translation reflective questionnaires to enable students to compare their translation process expectations and planning with the actual translation flow. Holewik (2020) analyzed the content and modality of self-reflection reports and peer feedback from students performing interpretation tasks. It was discovered that they tended to focus more on the weaknesses and failures of their own performance while remaining positive in their judgments about the quality of their colleagues' interpretation. Crezee and Marianaccia (2021) employed written reflective assignments to gather students' opinions about interprofessional interpretation sessions and to summarize their learning outcomes from them.

Journal as a reflective tool in the translation classroom

Reflective journal writing has been employed in translation training for the last two decades with some variations and under different names, such as 'translation diaries' (Fox, 2000), 'translation annotations' (Adab, 2000), and 'translation commentaries' (Norberg, 2014; Shei, 2005). However, the latter can be treated as a separate reflective tool, as it mainly deals with translation problems, the working process of solving them, and the translation aids involved (Norberg, 2014, p. 156) rather than with the entire translation process or tracking students' knowledge and skills development.

Reflective journaling is defined by Rivera, de Rooji, and Jones (2020) as "… a structured writing process with the purposes of acquiring a set of abilities and skills; thinking in a critical inquisitive way; and solving problems within a professional context" (pp. 144-145). Therefore, a reflective journal is essentially a diary of learning a particular activity, maintained by a student in a free form on a regular basis, aimed at recording acquired experience, encountered problems, their alternative solutions, and critical contemplation (Defeng, 1998).

Defeng (1998) was one of the first to adopt reflective journal writing from foreign language teaching methods and introduce it into translation training with the aim of internalizing translation theory and implementing it into practice. He also developed a comprehensive system of guiding questions the students were supposed to expand on. These questions covered topics such as the theoretical knowledge acquired by students in lectures, the thinking and decision-making processes within translation itself, the connection between reflected translation performance and acquired theoretical knowledge, and a summary of the performed translation. Shortly after, Shih (2011) introduced guided reflective journal writing into a theory-based translation practice course with a similar goal of linking theory and practice in the translation classroom. In this case, students' journal entries were graded according to specifically developed criteria, and their positive impact on their translation competence level was proven. Lee and Gyogi (2016) applied guided reflective journals in their Korean and British translation classrooms concurrently. It was found that reflective journaling promoted the development of students' metacognitive and translation skills, regardless of their cultural background.

Orlando (2012) proposed an integrated translation diary application to accompany traditional criteria-based translation product evaluation. This diary served as an additional source of evidence to review and assess the translation process. Students reported the problems encountered during task performance, the actions and decisions taken, the materials involved, and any revisions or corrections made. Such notes are typical and authentic in a professional translation environment. Additionally, they assist the teacher in differentiating between translation mistakes and justified translation decisions in their students' target texts.

Lee (2014) developed and presented her model of reflective learning journal writing for use in the translation classroom. In this model, postgraduate translation students were required to submit their final translation drafts after peer revision, self-revision, and feedback discussions, along with their reflective journal entries. Lee (2014) provided general guidelines to motivate students to maintain journals and set qualitative and quantitative requirements for doing so. The journal entries

were expected to be typed in MS Word documents and address the following prompts:

1) How did your drafts differ? What changes did you make?
2) Describe the translation process itself.
3) Discuss any problems or difficulties you encountered.

In this case, reflective journal writing was completed with the final entry devoted to the analysis of learning and translating course experience. This final entry had to be compiled after reviewing all current entries prepared within the term (Lee, 2014, p. 16).

Benefits and pitfalls of reflective journal use in the translation classroom

The previous studies indicate that the principles of using reflective journals in the translation classroom can be identified as follows: 1) shifting the focus from the translation product to the process of translation (Defeng, 1998), 2) allowing for a free form of reflection delivery (Fox, 2000), 3) utilizing a written format that ensures entry storage and provides the opportunity to review them over time to track one's progress (Defeng, 1998; Orlando, 2012), 4) offering the possibility to detect, correct, and prevent similar translation mistakes in the future (Angelone, 2015), 5) providing an opportunity to identify the reasons for translation mistakes and failures for both teachers and students (Defeng, 1998; Gile, 2004), 6) creating space for teacher-student interaction and assistance, enabling deeper and more detailed feedback on students' translation task performance (Defeng, 1998; Fox, 2000), and 7) offering additional prospects to improve students' writing skills in either the source or target language (Defeng, 1998).

The disadvantages of using reflective journals in the translation classroom include 1) a high risk of receiving simple reports on students' actions rather than evaluations of their acquired experience, 2) potential frustration among students due to a lack of understanding of what to write about and how to do it, 3) irregularity in journal entries, especially if students are required to submit their reflective journals at the end of the term, which may lead to last-minute falsification, 4) assessment issues and discrepancies (Lee, 2015), and 5) ethical traps (Defeng, 1998).

The effectiveness of reflective journals as learning and assessment tools depends much on the developed or adopted procedures of journaling, including the required regularity of entry submission, the type of entry analysis, evaluation, and use by the teacher, as well as the further application of the journal entries in translation training. Additionally, the quality of students' entries is crucial, which may be influenced by several factors, including the explicitness of the given guidelines, the clarity of the prompts, students' readiness to self-reflect, and the entry format or mode (Fakazli & Gönen, 2017; Power, 2012).

In most reported cases, reflective journal entries were delivered either handwritten or typed using different word processor software. However, entries prepared in such a way have limited interactive and sharing features and lack the dynamic options of digital tools. Up-to-date Web 2.0 technologies offer a wide range of opportunities to convert traditional reflective journal writing into something more creative and imaginative, starting with blogging facilities and extending to digital storytelling software. For example, Yuksel (2013) reported the utilization of a confidential Facebook group to share reflective diaries and receive

comments from colleagues on the pre-service teachers' performance. Moreover, there is a plethora of specialized reflective software on the market that can meet the current needs of translation classrooms. These applications include Day One (https://dayoneapp.com/), Penzu (https://penzu.com/), Journey (https://journey.cloud/), and others. These tools offer enhanced features and functionalities for reflective journaling, providing students with more engaging and dynamic ways to document their learning experiences.

Method

Research design

In this study, a mixed methods research design was developed and employed. Its quantitative aspect involved the statistical analysis of the correlation between students' journaling format, the quality of their reflective journal entries, and their acquired translation competence level. The qualitative aspect focused on collecting and analyzing data about participants' attitudes toward digital reflective journaling in two different formats using Google Forms. Based on the results obtained, a list of the criteria for selecting appropriate software for digital reflective journal writing in the translation classroom was proposed.

Participants

The research took place in the spring semester of the 2020-2021 academic year at Poltava University of Economics and Trade, Ukraine. It involved 34 third-year undergraduate students (26 women and 8 men), aged between 20 and 24, and majoring in Translation studies. All of the students were native speakers of Ukrainian, and their English language proficiency was estimated at B2+-C1 levels according to the CEFR scale. They had been studying their Translation Practice course for two years. By the beginning of this research, they had been trained to perform different types of partial translation and were about to start practicing full translation performance in the Business Administration domain from English into Ukrainian.

At the beginning of the term, the students were introduced to the objectives and procedure of the intended study and invited to participate in it on a voluntary basis. Informed consent forms were distributed to them in class, and the return rate was 100%, as all the students signed them and agreed to participate in the survey without any coercion. Confidentiality and anonymity were guaranteed by the researcher. This research initially employed convenience sampling, involving a relatively small cohort of available participants. For the sake of this study, the students were further randomly subdivided into two sample groups (SG) of 17 participants each.

Data collection and procedure

In accordance with the course syllabus, the participants were expected to perform one full translation of a popular science article in Business Administration into Ukrainian per week and submit it together with their reflective journal entry. The course lasted 15 weeks.

During the first lesson, the students were introduced to reflective practices and their aims. They were exposed to the examples of reflective journal writing in translation training and were invited to analyze them, brainstorming the potential

pitfalls and benefits of reflective journaling. They were also provided with the typical layout of the expected reflective journal entry and its main components, such as entry date, source text title and author, its topic and volume (number of characters) of the source text, translation submission deadline, and total time spent on the translation task completion. The students were informed that they were free to choose any comfortable language (either Ukrainian or English) for writing their reflective entries. They were asked to keep their reports as task specific as possible, comment on relevant examples of their translation experience, cite their previous reflections if needed, and try to create a cohesive and coherent text addressing the set of the given prompts.

The prompts for the reflective journal entries were compiled based on the reflection cycle by Gibbs (1988) and reflection stages by Ryan (2013). They were grouped into four main sections, each with particular objectives, as summarized in Table 1.

Table 1. Prompts for reflective journal writing on the performed translation task

Prompt	Objectives
1. Smooth Sailing: Work Flow Review	
1. Describe briefly the main stages of your translation performance. 2. How did you analyze the source text? What were the findings of its analysis? 3. What translation problems did you face in this task? How did you solve them? 4. What strategies and techniques did you apply? 5. What external sources and tools did you use? 6. How did you evaluate the options you generated and what influenced your final decisions? 7. How did you revise your translation? What changes did you make and why?	a. to steer and direct the translation process; b. to get insight into translation flow; c. to identify productive and non-productive translation strategies applied; d. to determine relevant sources and tools to be used.
2. Emotional Whirlwind: Your Attitudes to the Task	
1. Are you satisfied with the quality of your translation product? 2. What are the strengths and weaknesses of your translation? 3. How did you feel when you started your translation task, in its progress and after its completion?	a. to develop students' emotional intelligence; b. to analyze the attitude to the task performance.
3. Seeing the Silver Lining: Performance Evaluation	
1. Was the given translation task challenging? 2. Did you have enough knowledge and skills to perform it properly? 3. What knowledge and skills did you lack? 4. What have you learned from this translation task? 5. Was this translation task useful for the development of your translation skills? In what way?	a. to encourage students to assess their current translation proficiency level; b. to identify their strengths and weaknesses; c. to formulate their learning outcomes.
4. Putting Your Ducks in a Row: Action Plan	

Prompt	Objectives
1. What questions do you still have connected with this translation task? 2. What are you going to do to improve your translation skills? 3. Do you feel confident about completing similar tasks in the future? 4. Is there anything else related to this translation task you would like to share?	a. to identify the most problematic aspects of the task to be discussed in class; b. to get to know about the students' self-efficacy beliefs; c. to encourage the students to plan their further learning.

The students were acquainted with the course privacy policy, which guaranteed complete confidentiality of their entries submitted for the teacher's review and feedback. They were suggested to share some of their entries with colleagues, selecting the most interesting and helpful of them three times per term on a voluntary basis. Moreover, the content of the submitted entries was used by the teacher for in-class reflective discussions held regularly. The students were assured that their entries were not subject to academic grading but would be followed by the teacher's feedback, containing clarifying questions, helpful hints, and comments. They were also informed that a full and informative reflective entry could positively influence their grade for the translation task performance. All the students were invited to treat the journaling activity as their personal creative learning space.

The main difference between the students of SG1 and SG2 was in the format of their reflective journaling. The students from SG1 used MS Word processor to prepare their journal entries and submitted them either printed on paper or electronically by email. On the other hand, SG2 students were suggested to keep their reflective journals using specialized software Penzu (see Figure 2), which was selected as the most highly rated free app for journaling in different appstores and according to Google search results.

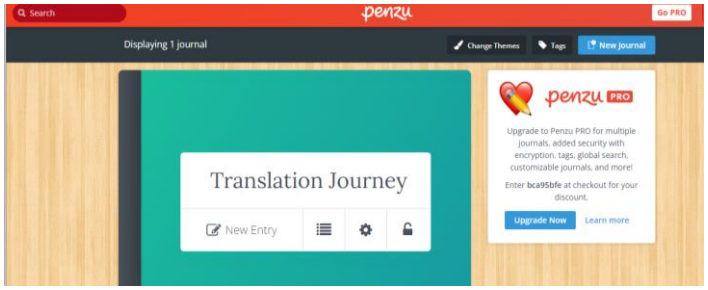


Figure 2. Penzu application starting window view

Penzu features convenient and confidential entry storing, viewing and sorting, as well as sharing and exporting capabilities. It allows users to add images, sounds, and videos, and offers a user-friendly customizable interface for both desktop and mobile versions. Its use does not require any prior instruction or training, and the basic set of features is available for free.

The translation assignment for the first week served as a pre-test of students' translation competence level and their abilities to reflect on their translation

performance, as manifested in their reflective journal entries. Their translations were assessed on a regular basis using a product-oriented evaluation scale suggested by Orlando (2012, p. 11), with a maximum grade of 100.

For the purposes of this research, the received students' reflective entries were quantitatively assessed based on how well they addressed the prompts discussed above in a meaningful and context-related way, with each prompt carrying a maximum of 5 points. Additionally, five more points could be added for a creative and resourceful approach to entry drafting and presentation. Therefore, the maximum grade for each student's reflective journal entry was also 100 points.

During the 5th, 10th and 15th weeks the students of both SGs were asked to share their brightest and most helpful journal entries with their colleagues. The shared entries were discussed in class. Additionally, representatives of SG2 had the additional opportunity to comment on their peers' entries using appropriate Penzu features online.

The translation assignment for the last week served as a post-test of students' translation competence level. The received data were analyzed and statistically processed with the help of the software Centurion (Statgraphics Technologies, Inc., USA).

During the same week, the students of both SGs were asked to take an online survey regarding their experience of reflective journal writing in the translation classroom in general, as well as their attitude toward the format they were assigned to use. The survey contained 13 close-ended questions presented using Google Forms. It took up to 15 minutes to complete the survey online. The internal consistency reliability of the survey results was evaluated using Cronbach's alpha, calculated on https://www.cogn-iq.org/statistical-tools/cronbach-alpha.html. The received data were collated and interpreted.

Findings and Discussion

Findings

Students' translation performance evaluation

This study aimed to examine the general effect of reflective journal writing on translation competence acquisition by undergraduate translation students, as well as to determine the recommended format of reflective journaling for application in the modern translation classroom, based on statistical calculations and students' subjective opinions. Pre-test and post-test grades for translation tasks performance by the students of both SGs are presented in Table 2.

Table 2. The results of the pre-test and post-test of students' translation performance

Sample Group1 (N=17)			Sample Group 2 (N=17)		
Pre-test results	Post-test results	Increase	Pre-test results	Post-test results	Increase
54.8823 out of 100.0	75.7647 out of 100.0	20.8824	54.5294 out of 100.0	84.7647 out of 100.0	30.2353

The pre-test results for full translation indicate almost equal unsatisfactory quality of the produced target texts for both SGs, according to the product-oriented evaluation scale suggested by Orlando (2012). Their mean values were lower than

70 points out of 100 possible. This correlates with a predictable insufficient level of the students' translation skills at the beginning of the course and underscores the need for active training. However, the post-test grades showed significant improvement, with mean values exceeding 70 points in both SGs. This corresponds to achieving the desired learning effect in both groups.

To determine which group of students achieved higher results in translation skills development, the Mann-Whitney (Wilcoxon) W-test was applied. This test involves combining the two samples, sorting the data from smallest to largest, and comparing the average ranks of the two samples in the combined data. After conducting the calculations using Centurion (Statgraphics Technologies, Inc., USA), the results showed that SG1 had a median of 74.0, an average rank of 13.764, while SG2 had a median of 89.0 and an average rank of 21.2353, with a P-value of 0.02966. Since the P-value is less than 0.05, there is a statistically significant difference between the medians of both SGs at the 95.0% confidence level. This means that the percentage of students who improved their translation skills to a satisfactory level (70% and above) in SG2 was significantly higher than in SG1.

Students' reflective journal entries evaluation

To verify the idea of correlation between students' translation competence and reflection skills levels, their reflective journal entries were analyzed based on how well they addressed the given prompts covering different stages and levels of the reflection process. The results of the students' reflective journal entries evaluation, based on a 100-point grading scale, at the beginning and end of the course were gathered in Table 3. This allowed for a review and comparison of the dynamics of students' reflective skills development in SG1 and SG2.

Table 3. The results of the reflective journal entries evaluation

Sample Group1 (N=17)			Sample Group 2 (N=17)		
1st entry	15th entry	Increase	1st entry	15th entry	Increase
30.2942 out of 100.0	78.0588 out of 100.0	47.7646	30.2942 out of 100.0	86.1764 out of 100.0	55.8822

From the data received, it can be concluded that at the beginning of the course, students from both SGs adequately responded to six prompts most frequently in their entries. Content analysis of the reflective journal entries revealed that from the outset, students eagerly described the main stages of the translation process, shared their strategies for analyzing the source text (as this was a familiar task from previous years of training), provided a list of external sources used for translation, and commented on the revision process. It is important to note that all these aspects belong to the first level of reflection, which is connected with experience description (Ryan, 2013). Additionally, most participants were ready to comment on their level of satisfaction with their translation product and their subjective evaluation of the difficulty level of the translation task. However, in most cases, these aspects were presented in a declarative rather than argumentative manner.

In the end-of-term samples of reflective entries (received within the 15th week of instruction), some differences between the two SGs can be observed. On

average, the students of SG1, who presented their entries in MS Word documents, tended to address up to 16 prompts out of 19, ignoring or being too vague regarding prompts belonging to the last stage of reflection, such as extra questions to the translation task, plans for improvement, and their self-efficacy beliefs. Additionally, the representation of the emotional component in the examined reflective entries from SG1 was often scarce. It is worth noting that they hardly ever received extra points for their creative approach to reflective entry delivery and presentation.

On the contrary, their colleagues from SG2 presented varied and emotionally saturated reflective entries that were interesting to read, supplemented with links to different sources, schemes, charts, memes, and more. Their reflective entries mainly omitted or did not deeply contemplate on the task-connected extra questions or challenges they faced in the process of translation. However, this usually correlated with high self-efficacy beliefs and a positive attitude toward their translation experience. These data suggest that the students of the two SGs have achieved different levels of reflection according to Ryan (2013).

Correlation of the students' translation performance and quality of its reflection

The dependence of the students' translation skills level on the quality of their reflection was examined using the Simple Regression method in Centurion (Statgraphics Technologies, Inc., USA). The output shows the results of fitting a linear model to describe the relationship between the results of SG1 post-test translation and the evaluation of the 15th reflective entry. The correlation coefficient equals 0.957758, indicating a relatively strong relationship between the variables. Similarly, for the data set received from SG2, the correlation coefficient equals 0.945827, indicating a relatively strong relationship between the studied variables as well.

Students' attitude to reflective journaling in translation training

Finally, during the last week of the course, the students were asked to complete a survey regarding their attitudes toward reflective journal writing in general and the chosen entry format in particular. This aimed to confirm the idea that their willingness to reflect and the development of their reflective skills were influenced by the journal format applied. The students' answers to the developed questionnaire are summarized and presented in Table 4.

Table 4. Students' attitudes to the use of the two formats of digital reflective journals in the translation classroom

N	Survey questions	SG1 answers	SG2 answers
1	I enjoyed my experience of reflective journal writing.		
	a. Yes	a. 4 students (23.5%)	a. 15 students (88.24%)
	b. No	b. 11 students (64.7%)	b. 1 student (5.88%)
	c. Difficult to answer	c. 2 students (11.8%)	c. 1 student (5.88%)
2	I consider reflective journal writing to be … for my translation skills development		
	a. useful	a. 12 students (70.59%)	a. 17 students (100%)
	b. useless	b. 5 students (29.41%)	b. 0

N	Survey questions	SG1 answers	SG2 answers
3	Reflective journal writing we practiced this term …		
	a. helped me understand all the details of the effective translation performance.	a. 6 students (35.29%)	a. 15 students (88.2%)
	b. helped me understand some aspects of the translation performance.	b. 4 students (23.5%)	b. 2 students (11.8%)
	c. did not affect my vision of the translation performance.	c. 7 students (41.21%)	c. 0
4	Reflective journal writing during this course …		
	a. made me aware of my learning strategies and helped correct them.	a. 2 students (11.8%)	a. 7 students (41.18%)
	b. made me think about my learning strategies.	b. 3 students (17.61%)	b. 10 students (58.82%)
	c. did not influence my vision and flow of learning.	c. 12 students (70.59%)	c. 0
5	It is much easier for me now to define my actual readiness to perform a particular translation task.		
	a. Yes	a. 0	a. 14 students (82.32%)
	b. No	b. 14 students (82.35%)	b. 1 student (5.88%)
	c. Difficult to answer	c. 3 students (17.65%)	c. 2 students (11.8%)
6	I … knew what to write about in my reflective journal entry.		
	a. always	a. 7 students (41.18%)	a. 14 students (82.35%)
	b. usually	b. 3 students (17.65%)	b. 3 students (17.65%)
	c. rarely	c. 3 students (17.65%)	c. 0
	d. never	d. 4 students (23.5%)	d. 0
7	Reflective journal writing had positive impact on the quality of my translation performance.		
	a. Yes	a. 5 students (29.41%)	a. 16 students (94.12%)
	b. No	b. 10 students (58.81%)	b. 0
	c. Difficult to answer	c. 2 students (11.8%)	c. 1 student (5.88%)
8	It was easy to store, review, and share my previous journal entries as well as to analyze my translation experience.		
	a. Yes	a. 2 students (11.76%)	a. 17 students (100%)
	b. No	b. 15 students (88.24%)	b. 0
	c. Difficult to answer	c. 0	c. 0
9	The format of reflective journaling was quite appealing and attractive to me.		
	a. Yes	a. 2 students (11.76%)	a. 17 students (100%)
	b. No	b. 13 students (76.48%)	b. 0
	c. Difficult to answer	c. 2 students (11.76%)	c. 0
10	I find it interesting and useful to comment on my peers' reflective entries and discuss them.		
	a. Yes	a. 5 students (29.41%)	a. 17 students (100%)
	b. No	b. 10 students (58.83%)	b. 0
	c. Difficult to answer	c. 2 students (11.76%)	c. 0

N	Survey questions	SG1 answers	SG2 answers
11	I am used to rereading my previous entries, analyzing and comparing them.		
	a. Yes	a. 2 students (11.76%)	a. 15 students (88.24%)
	b. No	b. 15 students (88.24%)	b. 2 students (11.76%)
12	I would like to get not only feedback on my reflective journal entries but real grades.		
	a. Yes	a. 0	a. 12 students (70.59%)
	b. No	b. 15 students (88.24%)	b. 1 student (5.88%)
	c. Difficult to answer	c. 2 students (11.76%)	c. 4 students (23.53%)
13	I am going to continue keeping my reflective translation journal after completing this course with the help of the same tool.		
	a. Yes	a. 0	a. 9 students (52.95%)
	b. No	b. 15 students (88.24%)	b. 2 students (11.76%)
	c. Difficult to answer	c. 2 students (11.76%)	c. 6 students (35.29%)

The internal consistency reliability of the conducted survey was evaluated using Cronbach's alpha, calculated on https://www.cogn-iq.org/statistical-tools/cronbach-alpha.html. According to Nunnally (1978), the developed survey scale has excellent reliability, with a Cronbach's Alpha value of 0.9619 (N = 34), despite the moderate sample size. As a result, the received data effectively measure the construct of attitude toward reflective journal writing in the context of translation training, as intended by the developed survey.

As depicted in Table 4, reflective journaling was a positive and pleasant experience for the majority of students from SG2, who used the Penzu app, while students from SG1, who utilized MS Word for this purpose, found it less appealing. All the students from SG2 were aware of the usefulness of reflective journaling for their translation competence development, while almost one third of the students from SG1 still considered this practice to be useless. Furthermore, more than 88% of SG2 acknowledged that reflective journaling helped structure their ideas of effective translation performance, while more than 40% of SG1 did not notice any changes in their vision of the translation process. About 70% of SG1 did not feel any influence of reflective writing experience on their learning strategies. Conversely, all the students from SG2 recognized that reflective journaling either corrected their learning routine or made them think about it.

More than 82% of SG2 students agreed that reflective journaling had a positive impact on their self-efficacy beliefs, while the same number of SG1 representatives did not think so. SG2 students never had problems with the content of their reflective entries, whereas about 40% of surveyed students from SG1 struggled with knowing what to write about. Almost all SG2 students recognized the positive impact of reflective entry writing on the quality of their translation product. However, only 30% of respondents from SG1 noticed this effect, indicating that reflective entry writing was not task-related enough and did not prompt additional revisions in their practice.

All SG2 students, who used a specialized app for reflective journaling, did not experience any discomfort or inconvenience with their entry processing, while participants from SG1 complained about problems with storing, sharing, and

reviewing MS Word-based reflective entries. Additionally, all SG2 students enjoyed giving and receiving comments on their reflective entries from their peers, while more than 58% of SG1 did not appreciate it at all. More than 80% of SG2 students had a habit of reviewing their reflective entries, in contrast to 11% of SG1. About 70% of SG2 students desired to receive a grade on their reflective entries, whereas nobody in SG1 had such a desire.

All the respondents from SG2 considered their digital format of journaling appealing and pleasant. Conversely, about 75% of SG1 students had an opposite opinion about their MS Word format. More than a half of the students from SG2 acknowledged their willingness and readiness to continue using Penzu for different types of reflection in the future. However, SG1 had no volunteers to continue keeping reflective journals further with the help of MS Word. Students' opinions demonstrate that motivation to reflect on one's learning and translation depends on the format of the reflective journal entry.

Discussion

In this research, the influence of reflective journal writing on the students' translation skills development was examined, focusing on different formats of journaling and investigating students' attitudes towards them. To achieve this, a mixed research design was developed and applied. This design encompassed the assessment of students' translation skills and evaluation of their reflective entries at the beginning and end of the term, along with the analysis of their responses to an online survey regarding their opinions about reflective journal writing in two different formats in the translation classroom.

The research findings confirm that reflective journal writing had a positive impact on students' translation skills development, aligning with similar conclusions reached by previous studies conducted in various educational contexts. For example, Fernández and Zabalbeascoa (2012) identified a correlation between students' translation competence level and their ability to reflect on translation and learning processes, highlighting the importance of peer interaction and collaboration in the reflection process. In the context of this research, the opportunity for students to study and comment on their colleagues' journal entries was facilitated by digital reflective journal apps, supports this conclusion.

Lee (2014) has demonstrated the positive effect of reflective journal writing on the enhancement of postgraduates' translation skills at a Korean university, particularly when the tool was used mindfully by the teacher for further instruction. The current study aligns with these findings, as the students' reflective journal entries were actively utilized by the teacher to refine translation task assessment and stimulate collaborative classroom discussions, thereby contributing to the improvement of translation skills. Similarly, Lee (2015) emphasizes the importance of scaffolding, such as providing guidelines with prompts for reflective journal entries, even for experienced students. In this research, scaffolding was provided in the form of structured questions, consistently applied to guide their reflective journaling. Additionally, the number and quality of students' responses served as criteria for evaluating their reflective journal entries by the researcher.

The findings suggest that providing a structured layout for reflective journal entries can indeed facilitate reflective practices among students. Additionally, involving reflective journaling in other assessment procedures can help prevent

entry falsification at the end of the term. The use of digital reflective journal apps, as supported by the students in this research (see Table 4), can greatly assist in achieving the main goals of reflection, as outlined by Moon (1999). These apps offer features, such as organization, privacy, and ease of sharing and reviewing entries, which can enhance the effectiveness of reflective practices in the classroom.

The main difference between the present study and previous studies is evident in the educational level of the students. In fact, almost all of the reviewed studies focused on either Master's degree students (Pietrzak, 2019) or postgraduate students (Lee, 2014). They are typically characterized by a higher level of translation competence acquisition and a higher level of cognitive and reflective skills development compared to the participants in this research, who were undergraduate students. Consequently, the participants in those research projects highly valued the suggested reflective practices and considered them useful and helpful, while the students who participated in this research had limited experience with reflective practices and were not fully aware of the importance and effectiveness of such practices.

As for the second research aspect connected with the format of the reflection, the study results align with the positive attitudes towards digital reflective tools observed by Le (2023) in the Vietnamese interpreting classroom. Similarly, Korol (2021) found that contemporary Ukrainian students preferred digital audio and text teacher feedback over handwritten feedback in translation training. These findings suggest a growing preference for digital formats in educational settings, particularly for reflective practices and feedback delivery.

Based on these research findings, a list of criteria for selecting a digital tool for reflective journaling in the translation classroom are proposed. The most crucial criterion for the contemporary Ukrainian translation classroom is *free access* to the application. In most cases, students and teachers tend to search for free-of-charge and highly accessible tools to be used in their practice. Reflective journal writing is typically one of many supplementary assessment tools, often combined with a variety of costly digital assessment instruments and computer-aided translation (CAT) tools. Therefore, it should be free to serve its purposes effectively.

In order to be highly functional and ergonomic in modern hectic world, the chosen digital tool should offer both *desktop and mobile versions*. This feature will enhance accessibility and convenience, allowing flexibility and frequent use of the app. Students will have the opportunity to reflect at any time they are ready and feel the need. Additionally, the tool should have a *user-friendly interface*. Intuitive usability is considered most appropriate as it allows space for students' creativity and experimentation, reducing the need for extensive training and instructions, which can consume valuable time and create new obstacles.

To transform the reflection process into an exciting individual journey rather than an obligatory assignment, students should have the ability to incorporate links, images, sounds, and videos that they associate with their translation task performance. This feature will offer equal opportunities for learners with various learning styles to express their translation experience and insights using multiple modalities.

To effectively utilize received reflective journals for the benefit of translation training, the selected app should provide features for storing, searching, and sorting entries, as well as an option for tagging. Tagging is particularly important for self-

analysis and self-assessment, as it allows students to label their entries with specific captions, summarize their reflections, and evaluate their outcomes. Additionally, sharing, importing, and commenting features are essential. These functionalities facilitate collaborative communities of practice, which are crucial for the development of students' translation skills and professional autonomy. Finally, high security standards are imperative to create a comfortable and safe environment for students to freely share and store their ideas.

Conclusion

Based on the research findings, it can be concluded that regular guided reflective journal writing promotes the development and enhancement of students' translation skills and drives the formation of their reflective abilities. Specifically, students who utilized a digital journaling app achieved more statistically significant progress in translation proficiency and produced reflections of higher quality compared to those who used traditional journal entries created with MS Word. Their reflective writing demonstrated deeper insight and contemplation of the translation and learning processes, presented critical problem-solving and strategy review of better quality, and expressed higher emotional engagement. Additionally, digital journaling facilitated learning routine corrections and contributed to the development of students' self-efficacy beliefs.

Students who used the digital journaling app perceived the reflective writing experience as positive and helpful, while their peers who used MS Word tended to adopt a more formal and indifferent approach to journaling. It is noteworthy that both groups of students had the same prompts to address and followed the same procedures for further entry usage. Therefore, it can be inferred that the comfortable and user-friendly atmosphere provided by the digital reflective app Penzu played a crucial role in facilitating successful reflective practice in the translation classroom. Penzu not only helped students relax and feel safe and confident but also encouraged them to review, share, and comment on their own and their peers' entries due to its functionality.

While this study provided valuable insights into the use of reflective journal writing in the translation classroom, it is important to acknowledge its limitations regarding the representativeness of the findings. The sample size of 34 translation students may not be sufficient to generalize the results across the country. Future studies could address this limitation by including a larger number of participants from universities in different regions of Ukraine and around the world. Additionally, comparing the effectiveness of other reflective journaling apps could provide a more comprehensive understanding of their impact on students' learning outcomes. Furthermore, future research could explore the ways in which digital tools are applied for analyzing the content and sentiment of students' reflective entries. This could offer valuable insights into the effectiveness of different approaches to reflective practice and provide guidance for educators on how to optimize the use of digital tools in the translation classroom.

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