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An Approach to Progress Learning Outcomes: International Graduate Students' Engagement in Reflective Practice and Reflective Journal Writing during Pandemic

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Abstract: Reflective practice (RP) and reflective journal writing (RJW) are considered the most important ways to enhance students' learning progress. During the pandemic, offline learning has replaced online learning to keep students safe and healthy. This research solely examined reflective practice during online learning, which is significant as online education is less effective and students carry the full study load. However, this study's core purpose was to determine international graduate students' perceptions regarding RP and RJW during online learning in the pandemic period. It also investigated whether student engagement in RP enhances their critical reflection and learning progress. The mixed-method (QUAN-QUAL) approach was utilized in this study. The sample consisted of 123 international graduate students who were enrolled in various disciplines and majors in China and at least attended two consecutive semesters (24 weeks) online. The survey questionnaire was based on 28 items to collect the quantitative data. The questionnaire was categorized into four variables: self-education, learning progress, critical reflection, and engagement. While semi-structured interviews were conducted with 5 participants for qualitative data collection, the quantitative results indicated that all of the statements received good ranks and could be used to study how reflective journals helped students improve their self-education, critical reflection, writing skills, learning progress, and engagement. In addition, the results revealed a statistically significant beneficial association between engagement, self-education, critical reflection, and learning progress. Qualitative findings corroborated the quantitative results that participation in RP and RJW boosted students' critical thinking skills and facilitated their learning and development. Based on the results, this study concluded that RP or RJW enhance success ratios as well as critical reflection, which is effective not only in learning but also in professional and practical settings.

Keywords: online learning; reflective practice; journal writing; pandemic; learning progress; critical reflection; applied mixed-method approach

1. Introduction

Service learning in higher education is an experiential learning pedagogy that balances the needs of student and community members involved, links the service and learning through reflective processes, and, if skillfully managed, leads to positive student personal, social or citizenship, career, and intellectual development [1]. Through service-learning, students learn to reflect on their experiences and develop critical-reflective skills, such as the ability to bring disparate elements of experience together in meaningful ways, to analyze information for patterns and deeper meaning, and to make evaluations and judgments [2].

Reflective practice is a serious examination of past events to conclude how to improve future outcomes [3]. Moreover, it entails critically examining one's behaviors and past experiences to better oneself [4]. Reflexivity and critical reflection are often discussed in relation to reflective practice [5]; reflexivity is the capacity and propensity of individuals

to demonstrate broad self-awareness and to contemplate themselves concerning their surroundings [6]. Critical reflection is an in-depth reflection that entails being aware of how your assumptions impact you and assessing your actions and obligations from moral, ethical, and social vantage points [7]. In addition, with the fast growth of education technology in the 21st century, students have been exposed to numerous information roots. Having access to millions of resources for education might lead to deeper learning. Students are expected to develop the skills necessary to become self-directed, self-reflective thinkers as part of this trend [8]. Therefore, instructors are no longer only information providers; their responsibility is to support students' learning. Consequently, today's students must develop the ability to participate in reflective activities, as these abilities will aid them in being productive in their respective professional settings [9,10].

However, contemporary discourse on reflective practice encourages professionals to participate in personal introspection and larger societal criticism. For instance, RP has been conceptualized as a combination of reflection, self-awareness, and critical thinking in the Open University's Health and Social Care faculty (Figure 1) [11,12].
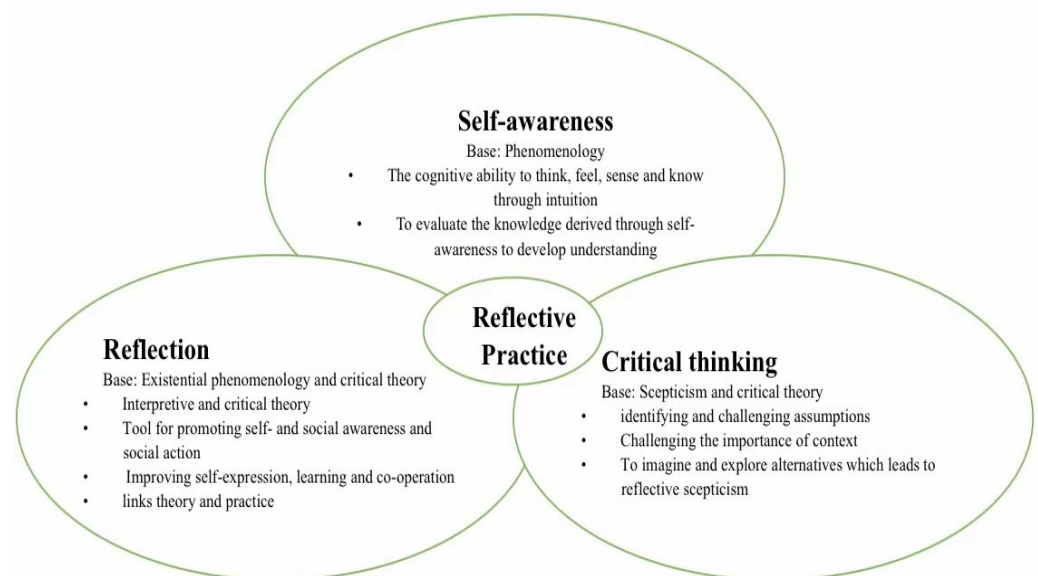

Figure 1. Competencies supporting the idea of reflective practice.

In learning, reflection means actively keeping track of and evaluating one's formal learning and professional practice activities to find new insights that add to the person's knowledge and experience [13,14]. Students are believed to develop self- and critical reflection via the usage of reflective journal writing (owing to the need of transferring thinking processes into written form) [15,16]. In addition, Reflective Journal Writing, often known as RJW, is a technique that is seen as useful in various sectors, including the medical and nursing professions and clinical and professional institutions [17–20]. For example, tertiary and higher-education instructors often employ reflective writing as a formative and summative evaluation tool for their students [21,22]. Through reflective writing about one's own experiences, students may develop self-awareness and a sense of control while also gaining self-confidence through validating their ideas [23]. It promotes independence by stressing student responsibility for learning and providing a venue for classroom-related discussions. These fundamental components of journal writing may help a student become a reflective practitioner [24,25]. As aforementioned, reflective thinking is a higher-order thinking skill. This ability assesses a process after a task has been completed or when engaging in a task. When reviewing learning experiences using this technique, students may better analyze their learning processes and develop learning standards [26,27].

Throughout higher education, student involvement is considered a vital study topic concerning academic achievement [28]. Student engagement was conceptualized as a mix

of two aspects, the first of which focuses on the student and the second corroborates the behavioral, cognitive, and emotional dimensions of involvement proposed by scholars [29]. In this context, participation in academic and social activities that lead to positive learning outcomes is referred to as "behavioral engagement" [30].

Further, critical and reflective thinking (CRT) is a set of abilities students use to evaluate their own and others' cognitive processes. It involves developing judgments based on reasoning, in which students investigate possibilities, evaluate alternatives using predetermined criteria, and draw conclusions [31]. Furthermore, it encompasses various thinking abilities that lead to desired results, while reflective thinking focuses on evaluating past events. However, reflective thinking is particularly crucial for promoting learning in complex problem-solving circumstances because it enables learners to consider how they solve issues and why a particular set of problem-solving strategies is optimal for achieving their goals [32].

Moreover, during the pandemic, online learning has been introduced around the globe [33]. Furthermore, offline education shifted to online education [34]. Students are encouraged to attend online classes to make them safe and healthy. Most of the studies have been conducted during the pandemic on the barriers to online learning, technology, the internet, electricity, and instructional obstacles [35]. In addition, fewer studies have focused on reflective practice during online classes. Nevertheless, this study only looked at reflective practice during online learning in the pandemic period, which is significant because the online learning is considered less productive and students bear the entire study burden [36,37]. However, reflective practice and journal writing are helpful student-centered activities that offer self-education opportunities to enhance critical reflection and learning outcomes. The present study was conducted in the academic year of 2020/2021. The study aimed to take the perceptions of international graduate students (about their engagement in reflective practice) pursuing higher education in China from different universities and disciplines and experienced online classes and reflective journal writing (RJW) for at least two consecutive semesters during the pandemic. To fulfill the study's aim, the following three research questions were formulated.

2. Research Questions

1. What are the perceptions and understanding of reflective practice among international graduate students during online learning?
2. How do students' engagement in reflective practice enhance critical thinking and learning outcomes of international graduate students during online learning?
3. Are there statistically significance relationships of engagement between self-education, learning progress, and critical reflection?

3. Theoretical Underpinning

Several conceptions of reflection have been developed in various professional practices and educational contexts. Researchers argue that these notions vary in their degrees of preparation, clarification, criticality, and reflexivity, but they all stress reflection as basically retrospective. There are many theories behind reflective thinking and reflective practice. Most models are beyond this course's scope, and many types of models are available. One of Boud's models (Figure 2) can be seen as the simplest. Reflection leads to further learning according to this cyclic model. Even though it captures the essence (learning comes from experience and reflection), it falls short of delivering the whole picture [38].
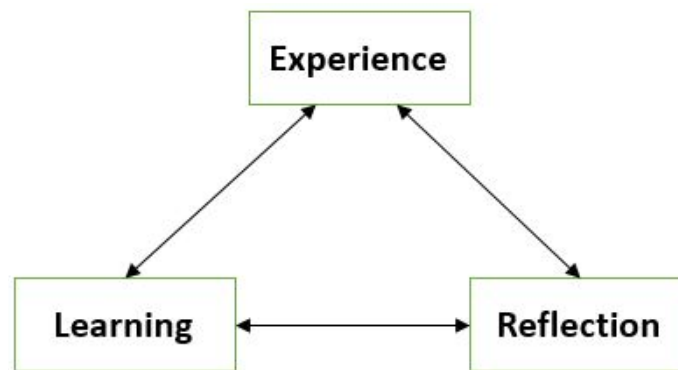
Figure 2. Boud's triangular representation.

According to Morris [39], reflection is a crucial aspect of learning, and successful learning cannot occur without it. However, Finlay [40] contends that they often entail three key processes: (1) retrospection (the process of reflecting on or analyzing previous events or circumstances), (2) self-evaluation (the actions and feelings involved in the experience need to be critically analyzed and evaluated); (3) reorientation (applying self-evaluation results to similar situations or experiences in the future). As indicated by Adeani and Febriani [41], Gibbs' Reflective Cycle (Figure 3) was based on the idea that theory and practice are mutually beneficial. Professional education has embraced this cycle as a strategy to foster reflection.
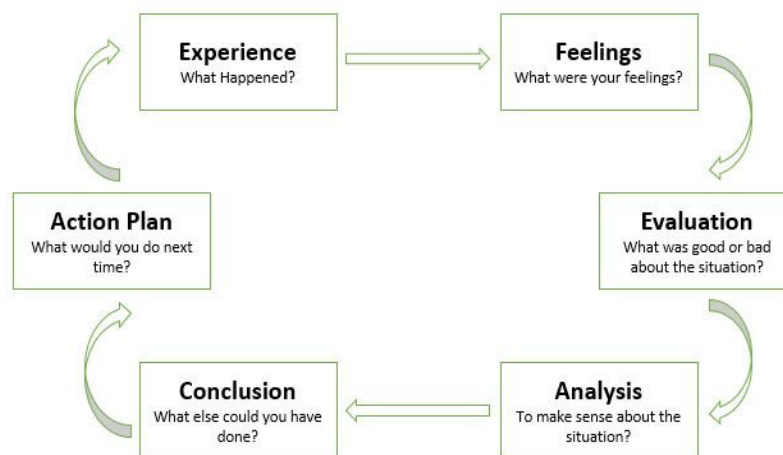

Figure 3. Gibbs' reflective cycle adopted from (Dye, 2011) [25].

The reflecting cycle of Gibbs divides into further steps. It admits that your sentiments have influenced how you think on the topic. It expands on Boud's model, which divides reflection into event evaluation and analysis, and there is a strong connection between experience-based learning and future practice [42]. By implementing Gibbs' reflective series, reflective experts can analyze and assess their practices and improve them as needed. The six components of reflective writing are as follows: a detailed description of the situation, an examination of how you felt about it, an evaluation of the experience, analysis to make sense of it, a conclusion, and, finally, an examination of what you would do differently if the same condition arose again through an "action plan" [43–46].

4. Literature Review

Many studies have explored how reflective practice and journal writing can enhance learning. It can teach reflective thinking skills and facilitate reflective activity among learners [47]. RJW is an effective instructional tool for assessing student learning. For instance, RJW has been used to assess learners' ability to reflect [48,49]. Despite the increase in student and instructor workload, journal writing increased reflective capacities. In addition, RJW has considerably enhanced teacher–student interaction, initiating a productive learning environment [50]. Researchers have found that reflective journal writing positively impacted students' learning process in several studies.

Similarly, Knapp [51] utilized RJW to investigate her students' educational practices and, as a result, she gained a deeper understanding of the theories and concepts offered in her college classes. Knapp said that journal writing allowed instructors to be more supportive of student teaching experiences and helped students reflect on what she termed "apprenticeships of experience."

In addition, Davis [52] analyzed the reflective journals of twenty-five pre-service teachers to determine how they applied the theoretical information gained in university training to their teaching practice. Davis discovered that RJW gave university professors insight into the mental processes of pre-service teachers.

Cheng and Chan [53] examined the advantages of the RJW for encouraging students to reflect on their learning and improve their writing abilities. In a similar vein, Pintrich [54] said that teachers might use students' replies to help pupils articulate linkages between new material and what they already know. Wong and Kember [55] investigated the role of reflective journals in fostering reflection and learning among post-registration nursing students. The research indicated that student writing "may be utilized as evidence of reflective thinking's existence or absence."

Lew and Schmidt [56] researched at a post-secondary school to determine the degree to which students perceive RJW to enhance their learning. They discovered that students' ideas about the value of journal writing in helping students to think and write reflectively are connected to their attitudes about boosting learning via frequent journal writing, using journal writing as an impression management tool, and as a method of providing feedback on teamwork. They found that online reflection diaries give students many chances to think about what they have learned and lets teachers see how much their students have grown.

Greiman and Covington [57] investigated student teachers' journal writing experiences to gain insight into the process of producing reflective practitioners. Student teachers were found to be quite comfortable with writing as a means of communication, and many said RJW went well. Scholars in their study identified reflective thinking as the most prevalent benefit of journal writing. The examined literature review indicates that reflective journal writing is essential for optimizing student engagement, improving motivation, fostering critical thinking, and enhancing learning outcomes.

5. Methodology

5.1. Study Design

This research used a mixed-method approach [58], A mixed-method explanatory sequential design was chosen in which the researcher combined and utilized quantitative and qualitative approaches [59]. This approach is prevalent among researchers who think that gaining information or truth can be established entirely by a single scientific technique (positivism), making access to social reality impossible (interpretivist). Combining these mindsets is, thus, required to uncover reality [60].

5.2. Participants and Sampling

One hundred and twenty-three (123) international graduate students participated in the survey questionnaires through random sampling from various Chinese higher-education institutions. Participants were undergraduate (bachelor), master, and Ph.D. students from different fields of study. Moreover, 8 participants were selected among the

survey participants and interviewed. The interview participants were selected through purposive sampling. Most of the participants in this study were female and hesitant to give their perceptions through semi-structured interviews. Then, the researcher requested hesitant participants for Reflective Journal Writing (RJW) as per their experience that can be seen in quantitative result findings.

5.3. Instrumentation (Questionnaire)

For data collection, the survey questionnaire was designed for quantitative study based on a large amount of educational literature and prior research discussing this subject [61,62], then modified according to the research objective and questions. The questionnaire was categorized into four dimensions addressed in this study: self-education, with 5 items; learning progress, with 9 items; critical reflection, with 6 items; engagement, with 8 items. The data were collected on a five-point Likert scale (strongly disagree, disagree, neutral, agree, and strongly agree).

5.4. Validity, Reliability, and Pilot Testing of the Questionnaires

The initial survey questionnaire consisted of 30 items. Two experienced experts checked the questionnaire to ensure the questionnaire's validity. After the implementation and the opinions of the expert, two items were eliminated, and the final formulation of the survey questionnaire consisted of 28 items with 4 dimensions. To check the reliability of the survey questionnaire, Cronbach's alpha was calculated. For this purpose, the pilot test of the questionnaire was conducted for 46 participants, and the alpha value showed a high degree of internal consistency, making the questionnaire very reliable to collect formal data as suggested by the literature review. Each dimension and overall questionnaire Cronbach's Alpha values are shown in Table 1.

Table 1. Reliability Analysis of each dimension and overall questionnaire.

Dimensions	Cronbach's Alpha	No of Items
Self-education	0.77	5
Learning progress	0.82	9
Critical reflection	0.73	6
Engagement	0.74	8
Overall	0.92	28

5.5. Quantitative Data Collection and Analysis Procedure

The quantitative survey sheets were sent to the participants through their emails for collecting quantitative data with the request to complete the survey sheets. Before sending the survey sheets to participants, consent was taken from each participant. It was also confirmed that the collected data would be kept secret and only used for study purposes. The one hundred thirty-two (132) survey sheets were mailed to participants, whereas 127 survey sheets were returned from them, and 4 sheets were excluded because they were not completed properly and had missing data.

Before conducting analysis, the Kolmogorov–Smirnov test was conducted to explore the data's normal distribution. According to the findings, the data had a normal distribution. According to Table 2, the value for all variables was statistically significant, indicating that the data followed a normal distribution.

Table 2. Kolmogorov–Smirnov test.

Instruments		Kolmogorov–Smirnov Z	Asymp. Sig. (2-Tailed)
Codes	Variables		
SE	Self-education	0.127	0.000
LP	Learning Progress	0.280	0.000
CR	Critical Reflection	0.143	0.000
E	Engagement	0.334	0.000

5.6. Semi-Structured Interviews

For collecting qualitative data, semi-structured interviews were conducted with 8 participants enrolled in Undergraduate, Master, and Ph.D. courses at various Chinese universities. The selected participants were approached on consented days to conduct the semi-structured interviews. The 3 interviews were on calls through Wechat (a Chinese social media app), and the interviews were recorded with the consent of the participants. Each interview duration was around 45 to 60 min. Furthermore, the remaining 2 interviews were conducted face to face, and the collected data were then further transcribed, incorporated, and compared to the notes; the repetition of ideas was observed through thematic analysis.

6. Quantitative Results Findings

6.1. Demographic Statistics of Quantitative Participants

Table 3 shows participants' demographic statistics, divided into four variables: age, gender, degree, and discipline, explained by frequency, percentage, mean, and standard deviation. The age ranges were 21–30 (f = 30, % = 30.9) and 31–40 (f = 85, % = 69.1) with (M = 1.69 and SD = 0.464). Gender was male (f = 44, % = 35.8) and female (f = 79, % = 64.2) with (M = 1.64 and SD = 0.481). Degree levels were categorized into: Bachelor (f = 19, % = 15.4), Master (f = 83, % = 67.5), and Doctoral (f = 21, % = 17.1), with (M = 2.02 and SD = 0.572). Discipline was also categorized into: social sciences (f = 77, % = 62.6), life sciences (f = 27, % = 22.0), and engineering (f = 19, % = 15.4) with (M = 1.53 and SD = 0.750).

Table 3. Demographic Characteristics of quantitative Participants.

Variables	f	(%)	M	SD
Age				
21–30	38	30.9	1.69	0.464
31–40	85	69.1		
Total	123	100.0		
Gender				
Male	44	35.8	1.64	0.481
Female	79	64.2		
Total	123	100.0		
Degree				
Bachelor	19	15.4		
Master	83	67.5	2.02	0.572
Doctoral	21	17.1		
Total	123	100.0		
Discipline				
Social Sciences	77	62.6		
Life Sciences	27	22.0	1.53	0.750
Engineering	19	15.4		
Total	123	100.0		

Note: f = frequency, % = percentage, M = mean, SD = standard deviation.

6.2. Demographic Profile of Qualitative Respondents

The qualitative demographic profile of respondents who participated in semi-structured interviews is shown in Table 4. The respondent profile was separated into four variables, the first of which was the respondents' names, which have been presented as "Pseudonyms" to protect their privacy, and the other variables were gender, age, degree level, and discipline. The following table contains the remaining information.

Table 4. Profile of participants who took part in semi-structured interviews.

Pseudonyms	Gender	Age	Degree Level	Discipline	Inhabitant
P1	Female	29	Master	Social sciences	Pakistan
P2	Male	33	Doctoral	Social sciences	Sudan
P3	Male	34	Doctoral	Engineering	Pakistan
P4	Male	35	Doctoral	Social sciences	Yemen
P5	Female	30	Master	Social sciences	Pakistan

Table 5 indicates the mean values of each item, and the items SE5, LP2, LP3, LP5, LP8, CR1, CR2, and E8 showed the highest means values, which revealed that reflective practice is the best way to enhance learning outcomes, critical reflection, and self-education. In the meantime, item E3 ranked (M = 4.80), which means that most students were also aware of the importance of reflective practice and took it as an essential assignment to enhance their self-education and learning outcomes. The statements of each items can be seen in Appendix A.

Table 5. Means and standard deviation values of each item.

Dimensions	Abbreviation	Mean	Standard Deviation
Self-education	SE1	4.37	0.682
	SE2	3.92	0.764
	SE3	4.36	0.616
	SE4	4.09	0.543
	SE5	4.56	0.498
Learning Progress	LP1	4.45	0.499
	LP2	4.73	0.445
	LP3	4.87	0.338
	LP4	4.05	1.062
	LP5	4.85	0.355
	LP6	4.05	1.062
	LP7	2.99	1.004
	LP8	4.87	0.338
	LP9	4.56	0.498
Critical Reflection	CR1	4.74	0.625
	CR2	4.46	0.644
	CR3	4.02	0.600
	CR4	4.20	0.701
	CR5	3.91	0.665
	CR6	4.40	0.539
Engagement	E1	4.63	0.486
	E2	4.24	0.431
	E3	4.80	0.398
	E4	4.72	0.449
	E5	4.28	0.453
	E6	4.18	0.385
	E6	4.26	0.441
	E7	4.41	0.495
	E8	4.63	0.682

Table 6 revealed the relationship among dimensions such as self-education, learning progress, critical reflection, and engagement. The bivariate correlation analysis was conducted to determine the association among dimensions. Based on the findings, it was determined that the independent variables (Self-education, Learning Progress, and Critical Reflection) had a substantial and strong positive relationship with the dependent variable (Engagement). The findings also demonstrated that students' engagement in reflective practice might improve their self-education, learning progress, and critical reflection.

Table 6. Correlation among dimensions.

	Self-Education	Learning Progress	Critical Reflection	Engagement
Self-education	1			
Learning Progress	0.723 ** 0.000	1		
Critical Reflection	0.765 ** 0.000	0.760 ** 0.000	1	
Engagement	0.834 ** 0.000	0.840 ** 0.000	0.605 ** 0.000	1

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

7. Qualitative Findings

Trustworthiness of Thematic Analysis

The collected data via interviews and students' reflective journals were analyzed through thematic analysis. Thematic analysis is a technique used to examine qualitative data. It is often used in many texts, such as interviews or transcripts. The researcher meticulously analyzes the data to uncover common themes—recurring topics, concepts,

and meaning patterns. This process was carried out under six steps: (1) familiarizing with the data, (2) generating initial code, (3) searching for a theme, (4) producing the report, (5) defining and naming, and (6) reviewing themes [63]. After screening the data, the transcribed data were given to participants again to check the authenticity of their perceptions and if they could add something new that was not on their minds at the time of the interview. The trustworthiness process of each phase is described in Table 7.

Table 7. Trustworthiness during Each Phase of Thematic Analysis process.

Phases of Thematic Analysis	Description
Familiarizing with the data	• The first step involves the repetitive reading of collected data; for example, the researcher should be proactive in searching for designs and meaning before coding. During this phase, notes were taken, each phrase of the transcribed data was reviewed, and text was compared to the audio recording.
Generating initial code	• Initial codes are produced in phase two. The coding phase categorizes data into a meaningful set of data. Interpretive analysis occurs in this stage, relevant to the context and arguments of the study. Hence, phase two is the preparatory stage for the next phase.
Searching for a theme	• This phase begins when all collected data have been coded initially. Then, the analysis of an extensive level of themes, instead of codes, includes arranging codes into probable themes. The mind map was used to organize the ideas piles for themes. Furthermore, the association among codes, themes, and sub-themes was considered. The sub-themes were kept purposely as the themes are yet to be finalized.
Producing the report	• This phase starts with devising the group of identified themes for reinforcement. The themes without enough supporting details were combined as one theme, and the rest were separated. The process of refining the themes involves reviewing all codes and collected data.
Defining and naming	• In this phase, identifying and elaborating the meaning of every theme were considered. It was carried out by looking at the data and codes collected and putting the themes in a way that made sense and gave an explanation.
Reviewing themes	• Consequently, this phase exposes a coherent, brief, concise, rational, and engaging storyline about the study. Relevant research and explanations of the gathered material reinforced the themes.

Adopted by Braun and Clarke [63].

After analyzing the qualitative data through each phase of thematic analysis, two themes were finalized based on research questions, interviews, and reflective journal writing (RJW): (1) journaling is a great technique for encouraging self-reflection and growth; (2) students' continuous engagement in reflective journal writing enhances their critical reflection and learning progress.

8. Discussion and Findings on Themes

8.1. Theme 1—Journaling Is a Great Technique for Encouraging Self-Reflection and Growth

Reflecting on practice may assist learners in shifting from a level where they may be primarily directed by instinct, intuition, or habit to one where they are guided by self-reflection [64]. Previous studies claimed that to be as effective as possible, RP encourages contemplation of why things are as they are and how we can control our actions and behavior through thoughtful preparation based on experience and theory [65,66]. On the awareness of reflective practice, one response revealed that:

> *I was not aware of reflective practice and journal writing. But in online classes, the most learning burden is considered on the learner. So, after experiences, I concluded that reflective practice is the best way to enhance self-learning.* (P2)

> *I do not understand what "Reflective practice" is theoretically and conceptually. Nonetheless, my self-education depends entirely on carefully considering previously attended lessons. Then I find it refreshing to record my thoughts.* (P5)

Russell* [67] went further and defined two processes: reflection-in-action and reflection-on-action. The distinction between examining thoughts and behaviors as they occur is to make changes in the present and looking back and gaining insight from past experiences to modify future behavior. Respondents added:

> *I was already aware of the term reflective practice, and I strongly recommend to every student adopt it because it enhances the ability to use new knowledge in practice and also the way to promote skills to analyze and evaluate things. It is significant not only in the learning process but also in professional life.* (P4)

Recently, educators and academics have shown a renewed interest in the role of reflection in education. It is because scholars have pointed out that it could help students develop professional values or skills by encouraging them to think about themselves [68]. Even though the definitions of self-reflection are diverse, they all advocate for enhancing student learning. In the current investigation, these interpretations impact self-reflection. Although self-reflection may be understood in many ways, its ultimate goal remains to improve education. These meanings have an effect on introspection in the present study. It refers to the processes a learner goes through to reflect on their earlier learning experiences and what they did to assist learning (self-reflection on how learning happened), as well as the identification of connections between the taught knowledge and the student's views about it (self-reflection on what was acquired).

> *As per my perception, Reflective journal writing is the way to judge what we have learned in class and on which part we need to improve. It also indicate the one's strength and weakness.* (P1)

> *In these two semesters, I observed clearly that I will neither pass the semester nor improve my self-learning and reflection level without proper adopting reflective journal writing and its practice. I also discovered in online learning that most professors did not help impart the necessary information during class. They had presented their scheduled lectures so often that I would beg them to provide something challenging to help us grasp, but they never did.* (P3)

Nonetheless, RJW also influences behavior, as revealed. During the reflection phase, learners review their work and determine whether the objective has been met. In response to this evaluation, they adjust their behavior concerning future learning activities. Consequently, the result of a former learning event influences a later learning process [69–72].

8.2. Theme 2—Students' Continuous Engagement in Reflective Journal Writing Enhances Their Critical Reflection and Learning Progress

The capability to reflect on one's own learning is fundamental to lifelong learning [73]. As a result, encouraging learners to participate in RP has been identified as a vital aim in higher education for preparing students for future professional experiences. An essential purpose of education is to produce learning experiences that are useful beyond the original learning setting [74,75].

Moreover, critical reflection, reflective practice, reflective thinking, and reflexivity all use similar meanings in education [76]. However, the scholars contend that not all reflection is critical and that critical reflection may be a more complex kind of reflection that is challenging for both students and instructors [77,78]. One of the respondents shared their experience regarding the understanding of critical reflection;

> *I can understand the meaning of critical reflection. It covered our experience and utilized it in the future. Our coursework also covers this topic, but only a few professors discussed its importance in learning outcomes during the online semester.* (P2)

Nonetheless, the CR encourages the student to continue gaining knowledge through experience, bridge the gap between theory and practice, and become successful [79,80]. Based on this idea, Brown and Slater [81] claimed that reflection should be regarded as a prerequisite

for transferring information and skills between the classroom and the workplace and that including a reflection tool in the training method might assist this transfer.

Moreover, critical and profound reflection is difficult. Few students (and teachers) instinctively understand how to use this skill [82,83]. Students must possess personal insight and be amenable to altering their ideas or core beliefs. It is simpler to write about events than it is to write about applications or links and provide critical reflections. Some students will be attracted to the easy path of journal writing and may want assistance in order to write profoundly [84]. Added by the respondent:

> *Essentially, reflective journal writing (RJW) is a technique to promote critical reflection and learning outcomes; thus, we analyze after each lesson, what we've learned in a certain area and where we need to work harder; therefore, we can say that it's a kind of daily self-evaluation.* (P4)

Furthermore, as highlighted in the literature, students approach the journal writing with varied degrees of expertise [85]. Some students may have maintained diaries for different courses, others in their personal life, and some may have never kept a journal [86]. Likewise, several researchers have emphasized the significance of critical reflection in the learning process and emphasized its crucial function as a facilitator of meaning-making. Previous studies have acknowledged the potential benefits of RJW in raising students' levels of metacognitive awareness [87]. The assumption is that metacognition is essential for optimal learning and finds a substantial increase in learning outcomes when regulatory abilities are included into classroom exercise as reflective practice [39,88,89]. The results of this study are consistent with the arguments of previous research [90–93].

9. Limitations of This Study and Future Work

The study also encountered limitations; first, the sample size was relatively small, from 123 international graduate students who belong to three disciplines for quantitative data collection. Future studies can be performed to enhance sample size and disciplines. Secondly, for qualitative data collection, only five students were interviewed. Thus, future research can be focused on interviewing professors to study this phenomenon in depth.

10. Conclusions

The present study examined the enhancement of learning outcomes of graduate students through reflective practice and journal writing. Based on the results of this study, RP or RJW enhance success ratios as well as critical reflection, which is not only effective in learning but also in professional and practical settings. As a result, RP and RJW are critical for students in today's complex educational setting, where they must accommodate a diverse range of students from various cultural and social backgrounds, each with its own set of demands. In such a rigorous educational environment, rather than relying on an acknowledged body of information, it is firmly believed that students should engage in reflective activities in order to become successful and productive students. Because reflective practice is seen as the essence of learners' growth, professional development, and improved learning, it is anticipated that successful teaching will emerge from learners' professional development via reflection. Therefore, it is proposed that instructors embrace reflective journal writing in the classroom in order to evaluate and classify students according to their commitment to a certain subject. In addition, it might be beneficial for professors to organize instructional techniques for graduate students from various environments.

Appendix A

Table A1. Survey Questionnaires.

Dimensions	Abbreviation	Items/Statements
Self-education		
	SE1	Reflective practice enhances the ability to find and use the information.
	SE2	RP creates skills to analyze, evaluate the alternatives.
	SE3	RP encourages to think logically and arrange the problem solution way.
	SE4	RP stays orientate in unexpected situations.
	SE5	RP helps to find new approaches to non-standard problems solving.
Learning Progress		
	LP1	Reflective Practice supports to develop my way of learning.
	LP2	RP helps me to make better understand the lecture that I study in the class
	LP3	RP increases interest in my learning.
	LP4	RP supports to improve my ability to work more efficiently.
	LP5	RP encourages to find out new strategies to improve learning.
	LP6	RP gives more knowledge to improve my learning ability.
	LP7	RP gives more experience to improve my learning skills.
	LP8	RP supports to know my learning strengths.
	LP9	RP supports to know about my weaknesses.
Critical Reflection		
	CR1	Reflective Practice changed the way I look at myself.
	CR2	RP provides me opportunity to judge my behavior towards learning.
	CR3	RP changed my normal way of doing things.
	CR4	RP helps to discover my faults which previously considered to be right.
	CR5	Because of RP I can understand better between theory and practice.
	CR6	RP enhances my ability to examine things critically.
Engagement		
	E1	I enjoy to involve in Reflective practice.
	E2	RP supports to establish my objectives for further learning.
	E3	I consider RP as an essential assignment.
	E4	Engagement in RP helps to cover the things which miss during lecture.
	E5	Engagement in RP allows to learn new things.
	E6	Engagement in RP allows to use my skills and ability in different manners.
	E7	RP has a high impact on learning outcome.
	E8	RP is a worthy experience that should be adopted in each subject.

Table A2. Interview protocol.

Basic Questions	Interview Questions
Basic Information	Thank you for participating in this study which is conducting to know the perception of international graduate students about reflective practice and reflective journal writing. Kindly introduce yourself?
Q1. What is the perceptions and understanding of reflective practice among international graduate students during online learning?	(a) In your previous studies are you engage in reflective practice? (b) Did you have experience of online learning before pandemic? (because in online learning the most study burden is on student) (c) Please explain what reflective practice is? (d) Please explain why reflective practice is beneficial? (e) Please explain how to engage in reflective practice? (f) How did you experience, reflective practice play significant role in your self-education?
Q2. How do students' engagement in reflective practice enhance critical thinking and learning outcomes of international graduate students during online learning?	(a) Please elaborate how engagement in reflective practice and reflective journal writing help in your learning progress? (b) To what extent RP & RJW help you to enhance your critical thinking? (c) To what extent RP & RJW help you to increase your learning outcomes?

Table A3. Collected data description.

	Types	File Format	Collected Data
Survey Questionnaire	Statistical measures	.CSV	From 123 participants
Documents	Reflective Journals writing	.doc	42
Interviews	Transcript	.doc	5

References

1. Salam, M.; Iskandar, D.N.A.; Ibrahim, D.H.A.; Farooq, M.S. Service learning in higher education: A systematic literature review. *Asia Pac. Educ. Rev.* **2019**, *20*, 573–593. [CrossRef]
2. Bringle, R.G.; Hatcher, J.A. Institutionalization of service learning in higher education. *J. High. Educ.* **2000**, *71*, 273–290. [CrossRef]
3. Al-Ahdal, A.; Al-Awaid, S.A.A. Reflective teaching and language teacher education programmes: A milestone in Yemen and Saudi Arabia. *J. Lang. Teach. Res.* **2014**, *5*, 759–768. [CrossRef]
4. Burhan-Horasanlı, E.; Ortaçtepe, D. Reflective practice-oriented online discussions: A study on EFL teachers' reflection-on, in and for-action. *Teach. Teach. Educ.* **2016**, *59*, 372–382. [CrossRef]
5. Watts, L. Reflective practice, reflexivity, and critical reflection in social work education in Australia. *Aust. Soc. Work.* **2019**, *72*, 8–20. [CrossRef]
6. Aschieri, F. Shame as a cultural artifact: A call for self-awareness and reflexivity in personality assessment. *J. Personal. Assess.* **2016**, *98*, 567–575. [CrossRef]
7. Sparkes, A.C. Developing mixed methods research in sport and exercise psychology: Critical reflections on five points of controversy. *Psychol. Sport Exerc.* **2015**, *16*, 49–59. [CrossRef]
8. Khalid, F.; Ahmad, M.; Karim, A.A.; Daud, Y.; Din, R. Reflective thinking: An analysis of students' reflections in their learning about computers in education. *Creat. Educ.* **2015**, *6*, 2160. [CrossRef]
9. Benade, L. Teachers' critical reflective practice in the context of twenty-first century learning. *Open Rev. Educ. Res.* **2015**, *2*, 42–54. [CrossRef]
10. Thorpe, K. Reflective learning journals: From concept to practice. *Reflective Pract.* **2004**, *5*, 327–343. [CrossRef]
11. Thompson, N.; Pascal, J. Developing critically reflective practice. *Reflective Pract.* **2012**, *13*, 311–325. [CrossRef]
12. Brechin, A.; Brown, H.; Eby, M.A. *Critical Practice in Health and Social Care*; Sage: London, UK, 2000.
13. Bruno, A.; Dell'Aversana, G. Reflective practicum in higher education: The influence of the learning environment on the quality of learning. *Assess. Eval. High. Educ.* **2018**, *43*, 345–358. [CrossRef]
14. Huda, M.; Teh, K.S.M. Empowering Professional and Ethical Competence on Reflective Teaching Practice in Digital Era. In *Mentorship Strategies in Teacher Education*; IGI Global: Hershey, PA, USA, 2018; pp. 136–152.
15. Ghanizadeh, A. The interplay between reflective thinking, critical thinking, self-monitoring, and academic achievement in higher education. *High. Educ.* **2017**, *74*, 101–114. [CrossRef]
16. Pavlovich, K. The development of reflective practice through student journals. *High. Educ. Res. Dev.* **2007**, *26*, 281–295. [CrossRef]
17. Hughes, J.A.; Cleven, A.J.; Ross, J.; Fuentes, D.G.; Elbarbry, F.; Suzuki, M.; Della Paolera, M.; Carter, N.S.; Stamper, B.; Low, P.; et al. A comprehensive reflective journal-writing framework for pharmacy students to increase self-awareness and develop actionable goals. *Am. J. Pharm. Educ.* **2019**, *83*, 6554. [CrossRef]
18. Abolghasem, F.H.S.; Othman, J.; Shah, S.S.A. Enhanced learning: The hidden art of reflective journal writing among Malaysian pre-registered student nurses. *J. Nusant. Stud. (JONUS)* **2020**, *5*, 54–79. [CrossRef]
19. Min, W.Y.; Mansor, R.; Samsudin, S. Facilitating reflective practice in teacher education: An analysis of student teachers' level of reflection during teacher clinical experience. *Int. J. Acad. Res. Bus. Soc. Sci.* **2017**, *7*, 599–612.
20. Donyaie, S.; Afshar, H.S. EFL Teachers' Reflective Journal Writing: Barriers and Boosters. *Iran. J. Lang. Teach. Res.* **2019**, *7*, 71–90.
21. Sridharan, B.; Tai, J.; Boud, D. Does the use of summative peer assessment in collaborative group work inhibit good judgement? *High. Educ.* **2019**, *77*, 853–870. [CrossRef]
22. Golding, C.; Adam, L. Evaluate to improve: Useful approaches to student evaluation. *Assess. Eval. High. Educ.* **2016**, *41*, 1–14. [CrossRef]
23. Ertmer, P.A.; Newby, T.J. The expert learner: Strategic, self-regulated, and reflective. *Instr. Sci.* **1996**, *24*, 1–24. [CrossRef]
24. Cirocki, A.; Widodo, H.P. Reflective practice in English language teaching in Indonesia: Shared practices from two teacher educators. *Iran. J. Lang. Teach. Res.* **2019**, *7*, 15–35.
25. Dyer, B. The perils, privileges and pleasures of seeking right from wrong: Reflecting upon student perspectives of social processes, value systems, agency and the becoming of identity in the dance technique classroom. *Res. Danc. Educ.* **2010**, *11*, 109–129. [CrossRef]
26. Kustermans, J. Parsing the practice turn: Practice, practical knowledge, practices. *Millennium* **2016**, *44*, 175–196. [CrossRef]
27. Moon, J. *Critical Thinking: An Exploration of Theory and Practice*; Routledge: London, UK, 2007.
28. Clynes, M.; Sheridan, A.; Frazer, K. Student engagement in higher education: A cross-sectional study of nursing students' particpation in college-based education in the republic of Ireland. *Nurse Educ. Today* **2020**, *93*, 104529. [CrossRef]
29. Fredricks, J.A.; Filsecker, M.; Lawson, M.A. *Student Engagement, Context, and Adjustment: Addressing Definitional, Measurement, and Methodological Issues*; Elsevier: Amsterdam, The Netherlands, 2016; pp. 1–4.
30. Wyatt, L.G. Nontraditional student engagement: Increasing adult student success and retention. *J. Contin. High. Educ.* **2011**, *59*, 10–20. [CrossRef]
31. Halpern, D.F. Teaching for critical thinking: Helping college students develop the skills and dispositions of a critical thinker. *New Dir. Teach. Learn.* **1999**, *1999*, 69–74. [CrossRef]
32. Chen, M.R.A.; Hwang, G.J.; Chang, Y.Y. A reflective thinking-promoting approach to enhancing graduate students' flipped learning engagement, participation behaviors, reflective thinking and project learning outcomes. *Br. J. Educ. Technol.* **2019**, *50*, 2288–2307. [CrossRef]

33. Dhawan, S. Online learning: A panacea in the time of COVID-19 crisis. *J. Educ. Technol. Syst.* **2020**, *49*, 5–22. [CrossRef]
34. Liguori, E.; Winkler, C. *From Offline to Online: Challenges and Opportunities for Entrepreneurship Education following the COVID-19 Pandemic*; SAGE Publications: Los Angeles, CA, USA, 2020; pp. 346–351.
35. Baticulon, R.E.; Sy, J.J.; Alberto, N.R.I.; Baron, M.B.C.; Mabulay, R.E.C.; Rizada, L.G.T.; Tiu, C.J.S.; Clarion, C.A.; Reyes, J.C.B. Barriers to online learning in the time of COVID-19: A national survey of medical students in the Philippines. *Med. Sci. Educ.* **2021**, *31*, 615–626. [CrossRef]
36. Wallace, R.M. Online learning in higher education: A review of research on interactions among teachers and students. *Educ. Commun. Inf.* **2003**, *3*, 241–280. [CrossRef]
37. Vrasidas, C.; McIsaac, M.S. Factors influencing interaction in an online course. *Am. J. Distance Educ.* **1999**, *13*, 22–36. [CrossRef]
38. Boud, D. Relocating Reflection in the Context of Practice. In *Beyond Reflective Practice*; Routledge: London, UK, 2012; pp. 25–36.
39. Morris, T.H. Experiential learning—A systematic review and revision of Kolb's model. *Interact. Learn. Environ.* **2020**, *28*, 1064–1077. [CrossRef]
40. Finlay, L. *Reflecting on 'Reflective Practice'*; The Open University: Milton Keynes, UK, 2008.
41. Adeani, I.S.; Febriani, R.B.; Syafryadin, S. Using Gibbs'reflective Cycle in Making Reflections of Literary Analysis. *Indones. EFL J.* **2020**, *6*, 139–148. [CrossRef]
42. Husebø, S.E.; O'Regan, S.; Nestel, D. Reflective practice and its role in simulation. *Clin. Simul. Nurs.* **2015**, *11*, 368–375. [CrossRef]
43. Timmins, F.; Murphy, M.; Howe, R.; Dennehy, C. "I Hate Gibb's Reflective Cycle 1998"(Facebook© 2009): Registered Nurses' Experiences of Supporting Nursing Students' Reflective Practice in the Context of Student's Public Commentary. *Procedia-Soc. Behav. Sci.* **2013**, *93*, 1371–1375. [CrossRef]
44. Driessen, E.; van Tartwijk, J.; Dornan, T. The self critical doctor: Helping students become more reflective. *BMJ* **2008**, *336*, 827–830. [CrossRef]
45. Ahmed, A.M. Students' reflective journaling: An impactful strategy that informs instructional practices in an EFL writing university context in Qatar. *Reflective Pract.* **2019**, *20*, 483–500. [CrossRef]
46. Osman, G.; Koh, J.H.L. Understanding management students' reflective practice through blogging. *Internet High. Educ.* **2013**, *16*, 23–31. [CrossRef]
47. Amirkhanova, K.M.; Ageeva, A.V.; Fakhretdinov, R.M. Enhancing students learning motivation through reflective journal writing. *Eur. Proc. Soc. Behav. Sci. Ep-SBS* **2016**, *12*, 14–18.
48. Khan, Z.R.; Venugopal, S. E'ntries all the way using online reflective journal writing as innovative tool to enhance student understanding and performance in ethics courses for information age. *Int. J. Recent. Technol. Eng.* **2019**, *8*, 2829–2833.
49. Gursansky, D.; Quinn, D.; le Sueur, E. Authenticity in reflection: Building reflective skills for social work. *Soc. Work. Educ.* **2010**, *29*, 778–791. [CrossRef]
50. Zulfikar, T.; Mujiburrahman. Understanding own teaching: Becoming reflective teachers through reflective journals. *Reflective Pract.* **2018**, *19*, 1–13. [CrossRef]
51. Knapp, N.F. Reflective journals: Making constructive use of the "apprenticeship of observation" in preservice teacher education. *Teach. Educ.* **2012**, *23*, 323–340. [CrossRef]
52. Davis, M. Barriers to reflective practice: The changing nature of higher education. *Act. Learn. High. Educ.* **2003**, *4*, 243–255. [CrossRef]
53. Cheng, M.W.; Chan, C.K. An experimental test: Using rubrics for reflective writing to develop reflection. *Stud. Educ. Eval.* **2019**, *61*, 176–182. [CrossRef]
54. Pintrich, P.R. The role of metacognitive knowledge in learning, teaching, and assessing. *Theory Into Pract.* **2002**, *41*, 219–225. [CrossRef]
55. Wong, F.K.; Kember, D.; Chung, L.Y.; Yan, L. Assessing the level of student reflection from reflective journals. *J. Adv. Nurs.* **1995**, *22*, 48–57. [CrossRef]
56. Lew, M.D.; Schmidt, H.G. Online Reflection Journals: Learning through Assessment. In Proceedings of the ICT: Providing Choices for Learners and Learning, Singapore, 2–5 December 2007; Ascilite: Tugun, Australia, 2007.
57. Greiman, B.; Covington, H. Reflective thinking and journal writing: Examining student teachers' perceptions of preferred reflective modality, journal writing outcomes, and journal structure. *Career Tech. Educ. Res.* **2007**, *32*, 115–139. [CrossRef]
58. Morse, J.M. *Mixed Method Design: Principles and Procedures*; Routledge: London, UK, 2016.
59. Ivankova, N.V.; Creswell, J.W.; Stick, S.L. Using mixed-methods sequential explanatory design: From theory to practice. *Field Methods* **2006**, *18*, 3–20. [CrossRef]
60. Kivunja, C.; Kuyini, A.B. Understanding and applying research paradigms in educational contexts. *Int. J. High. Educ.* **2017**, *6*, 26–41. [CrossRef]
61. Draissi, Z.; BaoHui, Z.; ZhanYong, Q. Reflective journals: Enhancing doctoral students' engagement. *Reflective Pract.* **2021**, *22*, 381–399. [CrossRef]
62. Farrah, M. Reflective journal writing as an effective technique in the writing process. *An-Najah Univ. J. Res.-B (Humanit.)* **2012**, *26*, 997–1025.
63. Braun, V.; Clarke, V. One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qual. Res. Psychol.* **2021**, *18*, 328–352. [CrossRef]

64. Carey, G.; Harrison, S.; Dwyer, R. Encouraging reflective practice in conservatoire students: A pathway to autonomous learning? *Music. Educ. Res.* **2017**, *19*, 99–110. [CrossRef]
65. Dewey, J. *Experience and Education*; Macmillan: New York, NY, USA, 1938.
66. Schmidt, M. Learning from teaching experience: Dewey's theory and preservice teachers' learning. *J. Res. Music. Educ.* **2010**, *58*, 131–146. [CrossRef]
67. Russell, T. Can reflective practice be taught? *Reflective Pract.* **2005**, *6*, 199–204. [CrossRef]
68. Lew, M.D.; Schmidt, H.G. Self-reflection and academic performance: Is there a relationship? *Adv. Health Sci. Educ.* **2011**, *16*, 529–545. [CrossRef]
69. Alt, D.; Raichel, N. Reflective Journal Writing and Multicultural Diversity. In *Equity and Formative Assessment in Higher Education*; Springer: Berlin/Heidelberg, Germany, 2021; pp. 41–55.
70. Herrington, J.; Parker, J.; Boase-Jelinek, D. Connected authentic learning: Reflection and intentional learning. *Aust. J. Educ.* **2014**, *58*, 23–35. [CrossRef]
71. Guo, L. How should reflection be supported in higher education?—A meta-analysis of reflection interventions. *Reflective Pract.* **2022**, *23*, 118–146. [CrossRef]
72. Riley-Douchet, C.; Wilson, S. A three-step method of self-reflection using reflective journal writing. *J. Adv. Nurs.* **1997**, *25*, 964–968. [CrossRef]
73. Taylor, S.; Ryan, M.; Pearce, J. Enhanced student learning in accounting utilising web-based technology, peer-review feedback and reflective practices: A learning community approach to assessment. *High. Educ. Res. Dev.* **2015**, *34*, 1251–1269. [CrossRef]
74. Moon, J.A. *Learning Journals: A Handbook for Reflective Practice and Professional Development*; Routledge: London, UK, 2006.
75. Williams, A.T. Growing student teachers' reflective practice: Explorations of an approach to video-stimulated reflection. *Reflective Pract.* **2020**, *21*, 699–711. [CrossRef]
76. Black, P.E.; Plowright, D. A multi-dimensional model of reflective learning for professional development. *Reflective Pract.* **2010**, *11*, 245–258. [CrossRef]
77. Harvey, M.; Coulson, D.; McMaugh, A. Towards a theory of the ecology of reflection: Reflective practice for experiential learning in higher education. *J. Univ. Teach. Learn. Pract.* **2016**, *13*, 2. [CrossRef]
78. Coulson, D.; Harvey, M. Scaffolding student reflection for experience-based learning: A framework. *Teach. High. Educ.* **2013**, *18*, 401–413. [CrossRef]
79. McMahon, T. Is reflective practice synonymous with action research? *Educ. Action Res.* **1999**, *7*, 163–169. [CrossRef]
80. Paterson, C.; Chapman, J. Enhancing skills of critical reflection to evidence learning in professional practice. *Phys. Ther. Sport* **2013**, *14*, 133–138. [CrossRef]
81. Brown, J.; Slater, M.J. Improving identity leadership through a novel targeted reflective practice intervention. *J. Appl. Sport Psychol.* **2022**, 1–18. [CrossRef]
82. Epp, S. The value of reflective journaling in undergraduate nursing education: A literature review. *Int. J. Nurs. Stud.* **2008**, *45*, 1379–1388. [CrossRef]
83. Spalding, E.; Wilson, A. Demystifying reflection: A study of pedagogical strategies that encourage reflective journal writing. *Teach. Coll. Rec.* **2002**, *104*, 1393–1421. [CrossRef]
84. Bashan, B.; Holsblat, R. Reflective journals as a research tool: The case of student teachers' development of teamwork. *Cogent Educ.* **2017**, *4*, 1374234. [CrossRef]
85. Dreyer, L.M. Reflective journaling: A tool for teacher professional development. *Afr. Educ. Rev.* **2015**, *12*, 331–344. [CrossRef]
86. Nesoff, I. Student journals: A tool for encouraging self-reflection and critical thought. *J. Bac. Soc. Work.* **2004**, *10*, 46–60. [CrossRef]
87. Alt, D.; Raichel, N. Reflective journaling and metacognitive awareness: Insights from a longitudinal study in higher education. *Reflective Pract.* **2020**, *21*, 145–158. [CrossRef]
88. Asfeldt, M.; Hvenegaard, G.; Purc-Stephenson, R. Group writing, reflection, and discovery: A model for enhancing learning on wilderness educational expeditions. *J. Exp. Educ.* **2018**, *41*, 241–260. [CrossRef]
89. Asfeldt, M.; Stonehouse, P. On Becoming a Reflective Practitioner. In *Outdoor Environmental Education in Higher Education*; Springer: Berlin/Heidelberg, Germany, 2021; pp. 337–348.
90. Harford, J.; MacRuairc, G. Engaging student teachers in meaningful reflective practice. *Teach. Teach. Educ.* **2008**, *24*, 1884–1892. [CrossRef]
91. Loughran, J.J. *Developing Reflective Practice: Learning about Teaching and Learning through Modelling*; Routledge: London, UK, 2002.
92. McFadden, J.; Ellis, J.; Anwar, T.; Roehrig, G. Beginning science teachers' use of a digital video annotation tool to promote reflective practices. *J. Sci. Educ. Technol.* **2014**, *23*, 458–470. [CrossRef]
93. Leshem, S.; Trafford, V.N. Stories as mirrors: Reflective practice in teaching and learning. *Reflective Pract.* **2006**, *7*, 9–27. [CrossRef]