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ENHANCING STUDENTS' ACADEMIC WRITING THROUGH ONLINE PORTFOLIO ASSESSMENT: A SELF-REGULATED LEARNING APPROACH IN DISTANCE EDUCATION

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Abstract: This study addresses the challenges faced by students in open and distance education when writing academic papers. Despite the potential of portfolio assessment (PA) to promote reflective and process-oriented learning, teachers often encounter barriers such as heavy workloads, a lack of assessment literacy, and difficulties in designing innovative tools. These constraints prevent students from effectively engaging in self-regulated learning (SRL). This research aims to develop an online portfolio assessment tool that enhances students' SRL in academic writing courses. Employing a Research and Development (R&D) approach adapted from Yalden's (1987) Language Program Development model, the study involved four phases: needs analysis, design and development, validation, and evaluation. Data was collected from 61 students during the evaluation phase, providing feedback on the e-portfolio implementation. Furthermore, data was also collected from two experts who served as validators during the product validation phase. Findings indicate that the online portfolio assessment fosters students' SRL by visualizing progress, enabling interactive feedback, and bridging synchronous and asynchronous learning gaps. The tool strengthens students' ability to plan, monitor, and evaluate their learning, thus promoting autonomy and writing competence. The study recommends institutional integration of e-portfolio systems into distance education curricula to sustain students' reflective learning practices.
Keywords: *self-regulated learning; e-portfolio assessment; academic writing; open education.*

INTRODUCTION

Writing academic papers is one of the graduation requirements at Universitas Terbuka (UT). It is a scholarly article, developed by considering the guidebook of academic writing at Universitas Terbuka. A few students inevitably feel frustrated when writing academic papers. They may struggle with essay structure, clarity, critical thinking, analysis, argumentation, citation, grammar, and proofreading (Rahman et al, 2024; Barasa, 2024; Deep & Chen, 2025). In addition, they often felt hesitant in writing the English word and assumed their spelling was not good enough (Caviglia-Harris, 2020; Stephani et al., 2020; Suprayogi et al., 2021). Those are in line with the declaration by the Vice Rector for Academic Affairs through B/677/UN31.WR1/KR.01.00/2024c stated that 700 students from the graduate and diploma programs were unable to pass this course due to several factors, including duplicating other students' work and self-plagiarism. Further, He strongly announced and reminded all UT civilisations to anticipate such a problem happening repeatedly in the future. From those

phenomena, it can be implied that writing an academic paper is perceived as "a scary assignment" for students, which could lead to their frustration. Furthermore, the ability to write scientific papers is a process-oriented skill that cannot be mastered immediately (Turago et al, 2023; Aljasir, 2025). To acquire this skill, students are required to undergo a learning process that includes independent study activities, completion of assignments, and guidance from competent tutors or advisors (Aliyu, 2020; Salvagno et al., 2023; Abdurakhimovna, 2024). As it is known, the learning activities in UT have applied open and distance education for years.

Based on preliminary observations of an online academic writing class, several stages of academic writing are outlined in its course objective. In the early stage, students are required to create a scientific article title appropriately, formulate problems according to the field of science well, process reading results or references to support the development or writing of scientific articles well, compile a scientific article writing frame work (outline) well, write scientific article in its entirety based on the outline that has been made and improve or finalize the scientific article to be better so that it is worthy of publication (Bahl, 2023; Chigbu et al, 2023; Susilawati et al, 2024; Kamila et al, 2024). Those learning goals were accomplished within twelve online meeting classes, enabling teachers and students to interact and consult via either synchronous or asynchronous learning systems available at UT. Mostly, the writing activities were done through independent study assignments and group discussions, either via e-learning or WhatsApp group chatting (Kamaludin et al, 2023; Veddayana et al, 2025). In other words, UT may indirectly encourage students to develop a highly independent ability.

Acquiring the skill of independence for students is not easy. In this case, students' self-regulated learning becomes crucial to rebuild their self-awareness of what has been done during their activities to accomplish their academic writing paper (Chen, 2002; Cleary et al, 2025; Shalini & Gandhimathi, 2025). Perhaps, they could set up their own learning goal, understand their current level of academic writing progress, and plan their next academic writing strategy to achieve their learning goal. It is believed that self-regulated learning (SLR) is an alternative approach to bridge students' knowledge and writing skills by encouraging them to take responsibility for their own learning to become individuals who learn to learn (Dignath & Veenam, 2020). In EFL writing, a self-regulated learner refers to an individual who can monitor and regulate his/her own ideas and writing behaviours in relation to set goals for text improvement through revisions (Cheng, 2023; Tsamago & Bayaga, 2023; Dan et al, 2025). They are aware of what and how they have learned, as well as their deficiencies in knowledge and abilities while learning to learn, which allows them to self-regulate (Salvagno et al., 2023; Carter et al., 2020; Willison et al, 2024; Akram et al, 2025). The series of activities in self-regulated learning can be conducted through an online portfolio assessment.

Portfolio assessment (PA) aligns with SRL principles by encouraging students to collect, select, and reflect on their writing products (Teng & Zhang, 2019; Gupta et al, 2024; Aldosari, 2025). PA supports metacognition and learner autonomy while offering teachers authentic insights into students' progress. However, practical constraints such as teacher workload, time allocation, and limited digital literacy often hinder PA implementation (Funa & Gabay, 2025; Liu et al, 2025). PA focuses on developing students' SRL abilities, enabling them to rewrite and reflect on their original and interim drafts based on feedback from themselves and others (Anthonysamy et al., 2020; Broadbent, 2021; Cleary et al, 2023). It is also a more reliable and authentic assessment method than timed essay exams for evaluating the writing process (Lam, 2014; Sun & Wang, 2020; Nona et al, 2024).

Based on previous research findings, it is important to consider Portfolio Assessment as an SLR strategy to enhance students' writing ability (Yilmaz & Akcan, 2012; Ismail & Osman, 2024; Eswaey & Ihmoumah, 2024). Prior research has tended to accept the potential capacity of e-portfolios in promoting students' self-reflection and writing skill enhancement (Lam, 2014; Teng & Zhang, 2019; Sun & Wang, 2020). However, the majority of those designs see e-portfolios only as storage or evaluation devices; none of them really combine a framework for SRL. For distance learning environments such as the model of Universitas Terbuka, with a large number of students, an asynchronous learning style, and insufficient tutor input, this constraint leaves learners at a disadvantage (Horn & Staker, 2011). The present study addresses this gap by developing an online portfolio assessment based on Zimmerman's (1989) SRL model with explicit coverage of the forethought, performance control, and self-reflection phases. By this integration, every feature of the tool is purposefully designed

in a coherent manner according to SRL principles to support learners' autonomy, metacognitive cognition, and sustained engagement. Although e-portfolios have been investigated in the traditional classroom, scant research is available on how and why a tool can be theoretically framed to respond to local pedagogical needs in open and distance education (Johnson et al, 2023; Tur et al, 2024; Lambert et al, 2024; Noori, 2025). Thus, the present study contributes by making the SRL principles operational or manifested in a digital assessment model that is practical and context-specific to e-academic writing courses at Universitas Terbuka.

Despite the benefits of PA as an SLR Strategy, implementing PA faces obstacles such as time allocation by teachers, teacher work loading, and a lack of assessment literacy among teachers (Mak & Wong, 2018; Link et al., 2022). The same obstacles are also found in UT, where teachers are overburdened with work, making it difficult for them to find time to arrange innovative assessments for students. As a result, it is hard for reactivated students to self-regulate their learning. By examining these phenomena, there is a need to develop an online assessment tool that could meet students' needs and improve the quality of teaching academic writing at the English Department of Universitas Terbuka.

The impact point could hopefully increase students' self-awareness and encourage them to be more confident in producing their own original writing. As a result, it can contribute to the research master plan of Universitas Terbuka by supporting the digital learning ecosystem through a digital curriculum and integrated assessment. Specifically, it could perhaps suppress more students from failing the academic writing course from semester to semester. Therefore, the focus of this research is to develop an assessment tool that enables the gathering of in-depth information about students' writing ability and supports plans for open and distance education in UT. The study aims to: (1) design an e-portfolio model that supports SRL in academic writing, and (2) evaluate its effectiveness in enhancing students' self-regulation and writing performance.

METHOD

Research and Development (R&D) design was used to develop an e-portfolio assessment tool. Yalden's model (1987), specifically Language Program Development (hereafter LPD), was chosen because it is considered appropriate for developing a language program. This model consists of some stages: needs survey, description of purpose, selection/development of syllabus type, production of a proto-syllabus, production of a pedagogical syllabus, development and implementation of classroom procedure, and evaluation, as seen in Table 1.

Table 1. *Yalden's Language Program Development (LPD) stage*

No	Research & Development Parts	Description	Activities
1	Research	Stage 1. Need Analysis	[. Need Analysis Conducting need analysis by collecting supported data from documents, questionnaires, and interviews Conducting library research to formulate the design of e- e-portfolio assessment tool Analyzing the collected data
2	Development	Stage 2. Designing Syllabus	Description of the purpose To determine the objective of e-portfolio assessment Selection of online assessment type To select the assessment type best suited to address the needs and characteristics of students Production of proto e-portfolio assessment tool Production of e-portfolio assessment tool Writing the proposed e-portfolio assessment tool
3	Research	Stage 3. Validating	Validating the e-portfolio assessment tool by an expert and trying it out with two academic writing teachers
4	Development	Stage 4. Revision	Revision on the design based on some feedback gained from validation and trying out the staged approach to produce the final product.

The subjects of this study were two academic writing teachers and their classes. Approximately 61 students were asked for their opinions on their preferences concerning the SRL strategy in an academic writing class. Next, in the production of e-portfolio assessment, two experts validated the e-portfolio assessment tool and SRL strategy in an academic writing class. Their constructive feedback and comments on this product were needed for revisions. The data for this study's needs analysis were collected through documents, questionnaires, and interviews. The legal document was collected to obtain valuable insights from educational policy, particularly regarding the implementation of the academic writing class. The guided book MKWI4560 was further used as a basis to determine the expected assessment tool, which serves the students' needs.

The next instrument was a questionnaire included in the e-portfolio assessment tool to gather information about students' needs and their self-regulated learning in the academic writing class. The last instrument was an interview conducted with both academic writing teachers and their students as users of the e-portfolio assessment tool. It explored their perspectives on teaching methods, the variety of activities used, types of text, writing strategies, and obstacles encountered when using the tool. The collected data were then analysed both qualitatively and quantitatively. The questionnaire data were analysed quantitatively through SPSS. The data from the questionnaire were compiled in Microsoft Excel and analysed in SPSS software to determine the frequency and percentage of each statement.

The items of the questionnaire were constructed in order to reflect Zimmerman's (2000) SRL model, including the phases of forethought, performance regulation, and self-reflection. The 39 items for the forethought phase were adapted from MSLQ (Pintrich, 1991) and reworded to fit the online academic writing context in distance learning. Individual items were reviewed and evaluated for content relevance and clarity. Content validity aims to test the content validity of the draft questionnaire; three experts in both EFL writing and SRL reviewed it. Experts evaluated each item for relevance, clarity, and congruence with SRL principles, yielding feedback that led to changes in the wording of some items. The questionnaire was supplemented with interviews, which were designed to probe respondents' views regarding teaching approach, types of text, writing strategies, and difficulties using the e-portfolio assessment tool. Meanwhile, the interview data were qualitatively analysed by describing the phenomena observed when the user used the tool, to gain an in-depth understanding of students' perceptions of the e-portfolio assessment tool.

The quantitative and qualitative data were analyzed to determine the outcomes of effectiveness of the e-portfolio assessment tool. The quantitative data collected from the questionnaire were initially analysed descriptively employing frequency, percentage, and mean scores. Inferential statistics were carried out to investigate the effect of the tool on students' self-regulated learning and academic writing performance. Qualitative data from teacher and student interviews were analyzed through thematic analysis. Analyses involved identifying recurring themes, patterns, and categories of teaching approaches, writing strategies/processes, types of text taught/written/produced in classes, challenges the original text posed for students, as well as the benefits that using the tool brought.

RESULTS AND DISCUSSION

This study reveals the stages of *Sim-Karil* design and its implementation as an e-portfolio assessment tool to enhance students' self-regulated learning in an academic writing class.

The implementation of students' self-regulated learning through the Sim-Karil assessment tool

There were three stages of students' self-regulated learning in academic writing: preparation, forethought, performance, and appraisal. The analysis of student responses during the preparation stage in writing, which aligns with the forethought and performance phases of Zimmerman's Self-Regulated Learning (SRL) model (2000), reveals a promising engagement with various metacognitive and motivational strategies. Notably, e-portfolio assessment can serve as a powerful scaffold for these SRL processes, especially in facilitating planning, monitoring, reflection, and feedback integration. There were three stages of SRL, which were already provided in Sim-Karil: the Forethought, Performance, and Appraisal stages. In each stage, there were already 39 questions in forethought (*as seen in Table 2), 10 open-ended questions in performance, and 20 questions in the* appraisal stage.

The results show that students reported high levels of engagement in planning, goal setting, and monitoring activities, with mean scores ranging from 3.40 to 4.20, indicating strong agreement.

Items related to revision (X2: checking grammar and structure) showed particularly high engagement, confirming the effectiveness of digital tools in promoting self-monitoring. However, some indicators (e.g., peer collaboration and emotional regulation) exhibited variability, suggesting that students need structured guidance in reflective and affective regulation. This supports Panadero and Romero (2014), who argue that e-portfolios activate all SRL phases by integrating goal setting, feedback, and reflection processes.

Table 2. *The questionnaire item available in the forethought stage*

When writing, I use several language devices to make the writing framework more engaging.	X1
When revising, I check for grammatical errors.	X2
When revising, I check spelling and punctuation.	X3
When revising, I check the logical coherence of the structure.	X4
When revising, I check cohesion or connections between sentences.	X5
When revising, I check whether the topic and content of the writing are clearly stated.	X6
I write down useful vocabulary and expressions in writing lessons to help my memory.	X7
I express useful vocabulary and expressions in writing lessons to help my memory.	X8
I read notes and learning materials repeatedly to aid my memory.	X9
I read related articles to support my planning.	X10
I use the internet to search for related information to support my planning.	X11
I reflect on the essential elements of learning to write well to support my planning.	X12
When learning to write in English, I set my own goals to guide my activities.	X13
I check my English language development to ensure I can achieve my goals.	X14
I evaluate my writing skills and content.	X15
I monitor my writing learning process.	X16
When writing, I tell myself to stick to what I have planned.	X17
I set my learning goals to improve my writing skills.	X18
I review materials with peers to improve my writing ability.	X19
I discuss with peers to gain more writing ideas.	X20
I collaborate with peers in writing lessons.	X21
I am open to peer feedback to help me write.	X22
I am open to feedback from lecturers/tutors to help me write.	X23
I strive to improve my writing skills based on peer feedback.	X24
I strive to improve my writing skills based on feedback from lecturers/tutors.	X25
I look for ways to make learning to write more enjoyable.	X26
I choose interesting topics for writing practice.	X27
I relate my writing assignments to my daily life experiences.	X28
I try to connect my assignments with my personal interests.	X29
I remind myself how important it is to get good grades in writing lessons.	X30
I tell myself that I must keep learning to improve my writing competence.	X31
I tell myself that writing practice is important.	X32
I focus my attention on learning to write more.	X33
I tell myself to practice writing to get good grades.	X34
I persuade myself to study harder to further improve my writing ability.	X35
I persuade myself to keep practicing writing to measure the extent of my learning progress.	X36
I tell myself not to worry about writing tests.	X37
I tell myself to keep writing when the urge to give up comes.	X38
I find ways to regulate my emotions when the urge to give up comes.	X39

Table 3. *Tabulation of questionnaire items in the forethought stage*

		X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20	X21	X22	X23	X24	X25	X26	X27	X28	X29	X30	X31	X32	X33	X34	X35	X36	X37	X38	X39
N	Valid	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
	Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean		3,69	4,21	4,34	3,85	4,04	3,89	3,94	3,86	3,94	4,25	4,41	3,97	3,83	3,96	4,07	3,96	3,93	3,85	3,80	3,96	3,75	4,01	4,27	3,87	4,25	4,11	3,86	3,93	3,86	3,93	4,07	3,96	3,89	3,90	4,00	3,96	3,56	3,94	3,97
Median		4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	5,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00
Mode		4	4	4	4	4	4	4	4	4	4	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Std. Deviation		1,129	0,715	0,675	0,690	0,596	0,785	0,843	0,850	0,826	0,691	0,729	0,845	0,971	0,783	0,724	0,853	0,961	0,889	0,920	0,992	1,010	0,802	0,736	0,877	0,788	0,728	0,946	0,900	0,975	1,005	0,834	0,853	0,803	0,988	0,862	0,801	1,180	0,876	0,956
Minimum		1	2	2	2	1	2	2	1	2	2	2	1	1	2	2	1	1	1	1	1	1	1	2	1	2	2	1	2	1	1	2	1	1	1	2	2	1	1	1
Maximum		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Table 4. *The categorization of the mean score*

Mean	Intrepretation
4.20 – 5.00	Very High – Most respondents strongly agree.

3.40 – 4.19	High – Majority agree
2.60 – 3.39	Moderate/Neutral – Tend to be doubtful or divided.
1.80 – 2.59	Low – Tend to disagree.
1.00 – 1.79	Very Low – Majority strongly disagree

Based on the analysis results, the mean scores range from 3.40 to 4.19 and from 4.20 to 5.00**,** indicating that the majority of respondents agree strongly with the variables in question.

Table 5. *The categorisation of the standard deviation resulted*

Standard Deviation	Interpretation
0 – 0.5	Responses are highly uniform (respondents mostly gave the same scores)
0.5 – 1.0	Responses are fairly consistent, with only slight variation.
1.0 – 1.5	Responses are varied, indicating differences of opinion.
> 1.5	Responses are highly varied (possible disagreement among respondents)

In other words, the results from table 3, table 4, and table 5 can be described as X1 ("When writing, I use various language tools to make the writing framework more interesting") had a mean score of 3.69 and a standard deviation of 1.129, indicating that while many students engage in strategic planning, there is significant variability. This inconsistency may reflect differing exposure to writing tools or varying degrees of understanding of writing conventions. Integrating e-portfolios could enhance this by allowing students to store, revise, and reflect on multiple drafts, making their use of tools more visible and purposeful. In addition, X2 ("When revising, I check for grammatical errors") had a mean score of 4.21 and an SD of 0.715, showing a high level of engagement in self-monitoring. Through the lens of SRL, this is a critical skill within the performance phase. With e-portfolios, students can track revisions across submissions, identify patterns of grammatical errors, and self-correct more effectively over time, fostering deeper engagement with accuracy and language awareness.

Meanwhile, the preparation variables overall fall within the high to very high mean score ranges (3.40 to above 4.20). This reflects students' consistent use of strategies such as goal setting (X13, X17, X18)**,** strategy planning and resource use (X10, X12, X27)**,** motivational regulation (X30–X39)**.** However, a few items—X1, X21, X30, and X7—recorded standard deviations above 1.0**,** revealing greater variability. These variables relate to self-generated support strategies (e.g., peer collaboration, emotional regulation), which are often more internal and less formally taught. In an e-portfolio environment, students can document and reflect on feedback received from peers (X21) and instructors (X22–X25), track motivational fluctuations, and create personal learning logs—making invisible processes visible and enhancing metacognitive awareness.

The result above indicates that Sim-Karil's role as an e-portfolio assessment tool could support the SRL cycle. In line with Panadero and Romero (2014), e-portfolios are shown to activate all three SRL phases: Forethought, performance, and self-reflection, in which each stage reflects how students did their self-regulation to reach their academic writing goal. For instance, the forethought stage enabled students to set goals and plan writing tasks. In the performance stage, they could also explore their self-regulation strategies, track drafts, and receive feedback (Lee, 2008). Lastly, in the self-reflection stage, they could appraise themselves through evaluating their learning growth through reflective writing and portfolio reviews. Hence, it is not surprising that the e-portfolios serve not only as assessment tools but also as learning spaces that reinforce autonomy, responsibility, and strategy adaptation—key SRL traits.

The high variability of the items for peer cooperation (X21) and emotional regulation (X37–X39) draws attention to an important dimension of SRL that is less apparent in a traditional classroom context. This implies that, though the learners effectively can plan and monitor their own behaviour, social and affective regulation are difficult to perform in a distance learning context (Bandura, 1986; Lai & Hwang, 2023; Huang & Lajoie, 2023; Brenner, 2024). These results are consistent with previous online and EFL studies (Panadero & Romero, 2014; Zheng et al., 2021; Kaur & Abas, 2020) that indicate that the fostering of effective peer collaboration and emotion management is challenging when students learn individually. In Asian distance learning environments in particular, learners often find it challenging to solicit peer feedback and maintain collaborative interaction among peers; this

highlights the importance of a structured e-portfolio tool that supports cognitive and affective SRL processes. Through making room for SRL in the environment of reflective documentation, feedback integration, and personal tracking, students' writing is not only assessed, but also latent SRL challenges can be identified and addressed to support more autonomous, self-directed learning: motivational as well as collaborative (Lo, 2010; Yang et al, 2023; Gkintoni et al, 2025; guo & Li, 2025).

Assessment of writing ability in the SRL framework and e-portfolio assessment tool

There were three stages of SRL, which were already provided in Sim-Karil: the Forethought, Performance, and Appraisal stages. Regarding the assessment of writing, it was already available in Sim-Karil, which is reflected in 20 questions during the appraisal stage (as seen in Table 6).

Table 6. *The questionnaire item is available in the appraisal stage*

I can correctly improve the use of parts of speech in sentences (e.g., nouns, verbs, adjectives, etc.).	Y1
I can write simple sentences with proper grammatical structure.	Y2
I can write compound and complex sentences with proper grammatical structure.	Y3
I can write essays with a clear organisational structure.	Y4
I can revise confusing words or sentences in my writing.	Y5
I can make my writing more organised.	Y6
I can correct basic grammatical errors in my writing.	Y7
I am aware of my goals to improve my writing skills.	Y8
I can think about my goals before writing.	Y9
I can consider alternative ways to help with my planning before writing.	Y10
I can evaluate whether I have achieved my writing goals.	Y11
I can evaluate my strengths and weaknesses in writing.	Y12
I can assess whether my writing is good or bad.	Y13
I can understand the most difficult material in writing lessons.	Y14
I can understand the basic concepts taught in writing.	Y15
I can comprehend the most difficult material presented by my lecturer/tutor.	Y16
I can complete my writing assignments very well.	Y17
I can master the knowledge and strategies for writing taught by my lecturer/tutor.	Y18
I can apply the knowledge and strategies for writing taught by my lecturer/tutor.	Y19
Regarding difficulties in writing, my lecturer/tutor and my abilities still enable me to complete my writing well.	Y20

Table 7. Tabulation of questionnaire items in the appraisal stage

Statistics

		Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y20
N	Valid	9	9	9	9	9	9	9	9	9	9	9	9	9	8	9	8	9	9	9	9
	Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Mean		2.8889	3.0000	2.8889	2.7778	3.0000	3.1111	3.1111	3.2222	3.1111	3.0000	2.8889	3.1111	3.2222	3.0000	3.2222	2.8750	2.8889	3.1111	3.2222	3.0000
Median		3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000
Mode		3.00	2.00[a]	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Std. Deviation		.60093	.86603	.78174	.83333	.50000	.60093	.60093	.66667	.78174	.50000	.60093	.60093	.66667	.53452	.66667	.35355	.78174	.60093	.66667	.70711

a. Multiple modes exist. The smallest value is shown

Table 4. *The categorisation of the mean score*

Mean	Interpretation
4.20 – 5.00	Very High – Most respondents strongly agree.
3.40 – 4.19	High – Majority agree
2.60 – 3.39	Moderate/Neutral – Tend to be doubtful or divided.
1.80 – 2.59	Low – Tend to disagree.
1.00 – 1.79	Very Low – Majority strongly disagree

The result revealed that self-assessment data regarding writing ability (Y variables) yielded mean scores between 2.875 and 3.1111. These scores place the responses in the moderate or neutral category, indicating a general hesitance or lack of confidence among students about their actual writing performance. Standard deviations between 0.5 and 1.0 indicate consistent perceptions but also limited self-awareness of writing quality. The e-portfolio provides concrete records of progress through successive drafts and feedback loops, allowing students to visualise learning growth and internalise evaluation criteria. These findings align with Teng and Zhang (2019), who highlight the role of reflection in developing writing autonomy.

Table 5. *The categorisation of the standard deviation resulted*

Standard Deviation	Interpretation
0 – 0.5	Responses are highly uniform (respondents mostly gave the same scores)
0.5 – 1.0	Responses are fairly consistent, with only slight variation.
1.0 – 1.5	Responses are varied, indicating differences of opinion.
> 1.5	Responses are highly varied (possible disagreement among respondents)

This finding is especially relevant to the self-reflection phase of SRL. Students seem aware of the importance of evaluating their own writing, but they may struggle with articulating the strengths and weaknesses of their performance without structured guidance. The standard deviations between 0.5 and 1.0 indicate moderate consistency, suggesting shared perceptions of writing challenges. However, the neutral scores show a possible disconnect between strategy use and perceived competence, an area where e-portfolios can provide strong pedagogical support**.** In other words, the result revealed that students could enhance their academic writing ability through *Sim-Karil as an* e-portfolio assessment tool. E-portfolio assessment can help bridge the gap between preparation and perceived performance by providing students with a clear record of progress, showcasing improvements from draft to draft, feedback from teachers and peers, goal reflection logs, and self-evaluation rubrics (Avila et al, 2025; Nieminen, 2025; Saifunnizam et al, 2025). These artefacts support more informed self-reflection and facilitate the internalisation of success criteria, allowing students to become more confident in their abilities and better equipped to evaluate their work objectively (Devaki, 2024; Brandt, 2024; Gibbons et al, 2025. Moreover, the act of curating an e-portfolio encourages students to see writing as a process rather than a product—aligning closely with SRL's cyclical nature. Students who consistently engage with their portfolios learn to identify recurring challenges, adjust strategies accordingly, and acknowledge improvement over time, thus moving from external regulation to autonomous self-regulation (Lo, 2010; Greene et al, 2023; Evans et al, 2024; Wolters et al, 2025).

As an e-portfolio assessment tool, Sim-Karil is indeed a significant step forward in visualizing the cognitive processes of learning not only in writing but along the full SRL cycle: planning, doing, and reflecting as well. One useful classroom strategy is documenting drafts, feedback meetings, and written reflections: guides to progress that can help students both recognize patterns of difficulty and success, modify strategies, and hold up a mirror for metacognition (Weigle, 2007; Al-Qoyyim & Kurniawan, 2025; Prompiengchai et al, 2025). But this study also has an implication, including short-term observation and the sample: only two academic classrooms, thus it is necessary to make a careful generalization within this context (Booth et al, 2023; Fisher et al, 2023; Ding & Zou, 2024). It will be crucial in future studies – iterative or longitudinal research, for example – to evaluate whether SRL skills, including social and affective regulation, become more salient with continued both e-portfolio use and its effects on the progress made towards independent learning.

CONCLUSION

The results demonstrate that Sim-Karil not only functions as an assessment platform but also as a learning environment fostering autonomy and reflective practice. Students were able to document, evaluate, and revise their work, thereby strengthening metacognitive awareness. However, the moderate self-assessment results suggest the need for ongoing teacher support and training in reflective assessment. The findings reaffirm Lam's (2014) view that portfolio assessment promotes sustained engagement with the writing process and authentic self-evaluation.

This study provides empirical evidence that online portfolio assessment enhances students' self-regulated learning in distance academic writing courses. By visualising learning trajectories and embedding reflective prompts, Sim-Karil facilitates forethought, performance, and reflection processes central to SRL. The findings highlight that while students demonstrate effective planning and monitoring, structured reflection and feedback mechanisms remain essential. Future research should examine the longitudinal impacts and scalability of Sim-Karil across other EFL courses at Universitas Terbuka.

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