

Exploring EFL Students' Perceptual Dimensions of SAMR Model Integration in Basic Writing: Beliefs, Values, Motives, Experiences, and Expectations

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Abstract

Received : December 4, 2025
Revised : February 23, 2026
Accepted : April 10, 2026

The purpose of the present study is to examine university students' perceptions of SAMR-based Basic Writing instruction, focusing on five main dimensions: beliefs, values, motive, experiences, and expectations. Through a quantitative descriptive research design, data were collected from the 40 undergraduate students of Basic Writing class through a Likert-scaled questionnaire administered after SAMR-informed lessons. Descriptive statistical analyses in the SPSS resulted in relatively high means of belief, value, motive and expectation ($M = 3.23-3.69$), which indicates strong cognitive acceptance to SAMR and positive perceptions with regards to its instruction utility. Negative-worded experience items showed low scores ($M = 1.97-2.17$), which suggests that students usually did not reject technical disturbance or problems. These findings support prior research on how SAMR might enhance language learning and digital competence through clarifying writing steps, motivating learners, and reducing technostress. Some practical suggestions are to improve the digital infrastructure of institutions, boost lecturer training in TPACK-SAMR, add ethical generative AI rules, and create scaffolded assignments that fit students' level of technological preparation. This study demonstrates that students possess favorable perceptions of SAMR-based Basic Writing training, evidenced by elevated levels of beliefs, values, motives, and expectations. The findings indicate that the SAMR model offers a viable pedagogical framework for enhancing academic writing in higher education; nevertheless, its efficacy is contingent upon instructor expertise and contextual assistance. Subsequent study ought to utilize mixed-methods or experimental designs and incorporate performance-based writing assessments to investigate the tangible effects of SAMR on writing quality.

Keywords:

Basic Writing; EFL Students; EFL Students Perception; digital pedagogy; Technology-Enhanced Learning; TPACK-SAMR Model

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How to Cite: Nggawu, L. O., Nurindah, Muhammad, A. P. A., Uke, W. A. S., Nurul Atma, Madil, W., & Husniatul Amalia. (2026). Exploring EFL Students' Perceptual Dimensions of SAMR Model Integration in Basic Writing: Beliefs, Values, Motives, Experiences, and Expectations. *JTP - Jurnal Teknologi Pendidikan*, 28(1), 250-262. Retrieved from <https://journal.unj.ac.id/unj/index.php/jtp/article/view/63029>

INTRODUCTION

The digital transformation and the rise of innovative technologies, such as online platforms, mobile learning, and generative AI, have changed the way education operates worldwide (Timotheou et al., 2023; Yusuf et al., 2024). However, these advancements have not consistently led to improvements in learning quality, particularly in students' academic literacy skills (Timotheou et al.,

2023). Many educational institutions still use technology in a basic way and have not significantly transformed their teaching practices (Arantes, 2022). In addition, students tend to have positive attitudes toward AI but also express scepticism due to uncertainty about its future implications (Dragomir & Todorescu, 2025; Gherheş & Obrad, 2018; Schiff, 2021; Johnston et al., 2024; Yusuf et al., 2024). From an educational management perspective, technology integration requires substantial systemic changes rather than incremental adjustments (Rabenu & Baruch, 2025). This situation highlights the urgent need for more purposeful and pedagogically grounded use of technology to enhance academic performance (Fleckenstein et al., 2023; McCarthy et al., 2023).

Academic writing in EFL environments is one of the most important areas that this problem affects (Li, 2024). Students frequently encounter difficulties in formulating arguments, structuring ideas coherently, employing suitable academic citations, and ensuring grammatical precision (Li, 2024; Yu & Yan, 2024). Even though many people have access to digital tools, these problems still exist. This shows that technology alone is not enough; it needs to be used in a way that works well with teaching and learning goals (Fleckenstein et al., 2023; McCarthy et al., 2023). In this study, academic writing pertains to students' capacity to produce and organise ideas, formulate logical arguments, construct cohesive paragraphs, employ proper academic vocabulary and references, and uphold grammatical accuracy in written writings (Bailey, 2025). It is thus comprehended as a recursive process encompassing planning, drafting, revising, editing, and presenting ideas in alignment with academic traditions (Bailey, 2025). In this context, the SAMR model is useful because it offers a framework for understanding different levels of technology integration, from enhancement to transformation (Hamilton et al., 2016). At the Substitution level, technology makes it possible to draft digitally instead of using traditional instruments. At the Augmentation level, digital tools help you write better by checking your grammar, giving you vocabulary help, and giving you instant feedback while you revise and edit (Hamilton et al., 2016; Muslimin et al., 2024). At the Modification level, technology makes it possible to write together, have peers assess your work, and change the way you do your tasks. At the Redefinition level, it lets students make real-world, multimodal writing products that go beyond what they would normally do in class (Hamilton et al., 2016; Muslimin et al., 2024).

Previous studies demonstrate that the SAMR model markedly improves the quality of English language acquisition (Song et al., 2025). The SAMR approach has proven effective in improving students' writing skills after the introduction of technology-based interventions (Capangpangan, 2023a). Moreover, the use of mobile applications such as Padlet, Sway, and Animoto has been shown to improve writing skills at the A1–B1 levels (Lestari & Wahyuni Chasanatun, 2022). The use of SAMR in TELL-based learning has proven helpful in helping teachers prepare for class and develop better ways for students to learn (Uke et al., 2024a). Another study found that SAMR-based digital skills are strongly linked to how well teachers perform their jobs and that insufficient digital literacy may worsen technostress for teachers (Muslimin et al., 2023). Further studies demonstrate that SAMR can improve critical thinking and procedural knowledge in e-learning English instruction (Alfiana et al., 2022). These findings suggest that SAMR provides a

structured pedagogical framework to meaningfully integrate technology into teaching and learning processes.

Despite its potential, a clear research gap remains. Numerous studies from 2022 to 2025 continue to focus on general competencies, including grammar, digital literacy, and overall technology integration (Zulfiani et al., 2025). However, limited empirical research specifically investigates the implementation of SAMR in academic writing processes for EFL students at the university level. In addition, the highest level of SAMR (redefinition) is rarely achieved due to limited institutional support and insufficient pedagogical expertise (De Castro & Guia, 2025). There is also a lack of holistic studies that explore students' perceptions and experiences in technology-supported academic writing at higher SAMR levels.

This study is needed as several studies indicate that the full implementation of SAMR—from Substitution to Redefinition—can enhance student engagement, critical thinking, and academic achievement (Umarova, 2025). However, many evaluations reveal that teachers still face barriers such as limited training, inadequate facilities, and lack of institutional support (Zulfiani et al., 2025). Without clear pedagogical objectives, technology integration risks becoming superficial and does not significantly improve students' academic literacy.

Therefore, this study aims to address this gap by focusing on students' perceptions of SAMR-based Basic Writing instruction in a university context. Specifically, this study aims to: (1) assess students' beliefs, values, motives, experiences, and expectations regarding the integration of the SAMR model in Basic Writing; and (2) determine which perceptual aspects are viewed most and least favorably following SAMR-informed instruction.

The case study of Universitas Halu Oleo was selected based on its contextual relevance to the research problem. Students in the English Education Study Program face several challenges in academic writing, including difficulties in constructing arguments, organizing ideas into cohesive paragraphs, using academic references, and maintaining grammatical accuracy. At the same time, they demonstrate strong potential, as they are familiar with digital technology and are motivated to improve their academic skills. Furthermore, the university is actively enhancing its ICT infrastructure. These conditions make Universitas Halu Oleo an appropriate setting to examine the implementation of SAMR-based academic writing instruction in a regional university context.

METHODS

This research utilized a descriptive quantitative survey design (Creswell, 2014) to investigate the students' perceptions of SAMR-based Basic Writing instruction. This design was selected as it enables researchers to quantify students' beliefs, values, motives, experiences, and expectations regarding the SAMR model using numerical data. Researchers chose this design because it lets them use numbers to measure students' beliefs, values, motives, experiences, and expectations about the SAMR model.

Forty undergraduate students enrolled in Basic Writing course within the English Education Study Program at Universitas Halu Oleo during the 2025/2026

academic year participated. A total sampling technique was employed, as all students in the selected class were included as research participants. All participants have previous experience utilizing digital tools to facilitate their study. Participation in the study was voluntary, and all 40 students finalized the questionnaire.

Two phases of the study were carried out. During the initial segment, the SAMR model was incorporated into three successive Basic Writing lessons. Each session emphasized one or more SAMR levels (Substitution, Augmentation, Modification, and Redefinition) by utilizing various digital platforms for planning, drafting, revising, and publishing students' texts. To provide a clearer description of the SAMR implementation, the learning activities and digital tools used at each level across four meetings are presented in Table X

Table 1. Implementation of the SAMR Model in Basic Writing Instruction

| Meeting | SAMR Level | Digital Tools Used | Learning Activities |
|------------------|--------------|---|--|
| Meeting 1 | Substitution | Microsoft Word, Document | Students drafted paragraphs digitally. |
| | Augmentation | Grammarly, Insert Picture | Students checked grammar and added pictures to support ideas. |
| | Modification | Padlet | Students uploaded drafts and received peer feedback. |
| | Redefinition | Canva | Students turned paragraphs into visual digital compositions. |
| Meeting 2 | Substitution | Google Docs, Microsoft Word, Document, GitMind AI | Students drafted and organized ideas digitally. |
| | Augmentation | Google Translate, DeepL, QuillBot | Students improved vocabulary and sentence construction. |
| | Modification | Padlet, Google Drive | Students shared drafts and revised them collaboratively. |
| | Redefinition | Canva | Students created multimodal writing products for presentation. |
| Meeting 3 | Substitution | Google Docs, Microsoft Word | Students wrote guided paragraphs in digital form. |
| | Augmentation | Grammarly, QuillBot | Students revised grammar and sentence variety. |
| | Modification | Padlet, Google Drive | Students exchanged drafts and gave peer comments. |
| | Redefinition | Canva | Students transformed writing into infographic-style texts. |
| Meeting 4 | Substitution | Google Docs, Microsoft Word, Document | Students prepared final drafts digitally. |
| | Augmentation | DeepL, Grammarly, Insert Picture | Students refined language and added visual support. |

| | | |
|--------------|----------------------|--|
| Modification | Padlet, Google Drive | Students revised texts based on collaborative feedback. |
| Redefinition | Canva | Students produced and shared final digital writing projects. |

In the second phase, following the concluding SAMR-informed lecture, a Google Forms survey link was distributed to all students during class. The researcher succinctly outlined the objectives of the study and the process for completing the survey. Students were assured that their responses would be kept confidential and utilized solely for research purposes. All 40 students successfully completed the online questionnaire, enabling the expedient and secure collection of data regarding their perceptions and experiences.

Data was collected using a self-developed Likert-scale questionnaire with 25 items divided into five dimensions: beliefs (5 items), values (5 items), motives (5 items), experiences (5 items), and expectations. Each item was evaluated using a four-point scale, extending from 1 (strongly disagree) to 4 (strongly agree), and encompassing both positively and negatively phrased statements. The initial set of items was evaluated by two specialists in English language education and educational technology who were university lecturers with expertise in EFL writing instruction, technology-enhanced language learning, and questionnaire development to assure content validity and clarity. A preliminary pilot test was carried out, and minor wording revisions were implemented in response to student feedback.

As this study is exploratory in nature and focuses on describing students' perceptions, the instrument validation primarily relied on content validity and internal consistency reliability rather than full construct validation through factor analysis. The reliability analysis showed that the internal consistency was good to exceptional. The entire 25-item measure had outstanding reliability ($\alpha = .92$; see Table 2)..

Table 2. Cronbach's alpha coefficients for each dimension and the overall scale

| Dimension | Cronbach's Alpha | N of Items |
|--------------------|------------------|------------|
| Beliefs | .789 | 5 |
| Values | .757 | 5 |
| Motives | .749 | 5 |
| Experiences | .578 | 5 |
| Expectations | .850 | 5 |
| Total scale | .922 | 25 |

The data were analyzed utilizing the most recent version of SPSS. A reliability analysis (Cronbach's alpha) was conducted for the entire questionnaire and for each of the five dimensions. Secondly, descriptive statistics (means, standard deviations, minimum and maximum scores) were calculated for each item as well as for the composite scores of beliefs, values, motives, experiences, and expectations.

RESULTS & DISCUSSION

Results

The initial part of the analysis concerns students’ attitudes towards integration of the SAMR model into academic writing instruction. The assumptions, acceptance and pre-conditioning of students toward learning with technology at the cognitive level are mirrored in their beliefs to appreciate.

The analysis of students’ beliefs toward the integration of the SAMR model reveals highly positive perceptions. The mean scores for all five items ranged from 3.34 to 3.69, indicating a strong level of agreement among students. This suggests that students perceive the SAMR model as useful, clear, and pedagogically relevant in supporting their academic writing processes. Additionally, the low standard deviation values (0.47–0.55) indicate consistent responses across participants, reflecting a shared positive perception. These findings demonstrate that students have a high level of confidence in using the SAMR framework as an effective tool for improving their writing.

In this study, there were five items to measure the degree regarding how students believe that SAMR supports their writing processes, learning processes becomes clearer and more pedagogical relevancy across different learning context. The descriptive statistical results of this section provide a first analysis about how confident students feel when using the SAMR framework as an effective model to improve their academic writing processes.

Table 3. Descriptive Statistics for the Belief Category

| Statistics | Item 1 | Item 2 | Item 3 | Item 4 | Item 5 |
|----------------|--------|--------|--------|--------|--------|
| Mean | 3.69 | 3.57 | 3.37 | 3.63 | 3.34 |
| Std. Deviation | 0.47 | 0.50 | 0.55 | 0.49 | 0.48 |
| Minimum | 3 | 3 | 2 | 3 | 3 |
| Maximum | 4 | 4 | 4 | 4 | 4 |

Descriptive statistics of the Belief dimension considering descriptive analysis of the category, students perceived the SAMR model very positive. The mean scores for all five items were between 3.34 and 3.69, indicating as a level of " strong agreement." To have different students within the group solve this problem, the standard deviation values (0.47-0.55) should be of a substantially small value to show that all students answered the same. Minimum values varied from 2–3 to a maximum of 4. It was, therefore, demonstrating that nobody disagreed with the concept of SAMR. These findings demonstrate a high level of student beliefs in the usefulness, clarity, and relevance SAMR model in supporting learning to write.

Table 4. Descriptive Statistics for the Value Category

| Statistics | Item 6 | Item 7 | Item 8 | Item 9 | Item 10 |
|----------------|--------|--------|--------|--------|---------|
| Mean | 3.40 | 3.20 | 3.23 | 3.37 | 3.43 |
| Std. Deviation | 0.50 | 0.47 | 0.55 | 0.49 | 0.50 |
| Minimum | 3 | 2 | 2 | 3 | 3 |
| Maximum | 4 | 4 | 4 | 4 | 4 |

Descriptive analysis on category Value, find that students perceived SAMR-based writing activities to be highly beneficial for their learning process. Mean scores for Items 6–10 were between 3.20 to 3.43, representing students’ responses at about “agree” to “strongly agree” on the scale. The values of the standard deviation from 0.47 to 0.55, show that there is not much less variability among the students in worths. The lowest possible

scores were between 2 and 3 and the highest possible score for all items was 4. That is to say that no student answered “strongly disagree,” and a ton of them went with the highest level of agreement. Based on the data, students get what the SAMR Model is, know why it’s important and see how using it could lead to a better essay.

Table 5. Descriptive Statistics for the Motives Category

| Statistics | Item 11 | Item 12 | Item 13 | Item 14 | Item 15 |
|----------------|---------|---------|---------|---------|---------|
| Mean | 3.54 | 3.37 | 3.26 | 3.29 | 3.29 |
| Std. Deviation | 0.51 | 0.55 | 0.44 | 0.51 | 0.51 |
| Minimum | 3 | 3 | 2 | 3 | 3 |
| Maximum | 4 | 4 | 4 | 4 | 4 |

Descriptive statistics of the motives category It is shown in Table 5 that students have high motives when performing writing activities based on SAMR. The mean score for items 11–15 is between 3.26 and 3.54; this indicates that students’ answers are partly to strongly agree on the scale. The standard deviations between 0.44 to 0.55 show low variation. This indicates that the students share similar understandings of what constitutes motives. The lowest score is 2, the highest always 4. This implies that no student selected the most negative response, and several students opted for the highest level of agreement. The results indicate the students’ strong will to become involved in technology-mediated writing assignments and they do so; they see the SAMR model as contributing for them to get emerged inside the educational procedure. With mean scores ranging from 3.26 to 3.54, the descriptive statistics show that students exhibit a high degree of motivation in SAMR-based writing tasks. Responses ranging from "agree" to "strongly agree" indicate a high level of engagement with tasks mediated by technology. The motivation ratings are consistently high but marginally lower than the belief dimension (M = 3.34–3.69). Similarly, the motivation ratings seem marginally higher when compared to the value dimension (M = 3.20–3.43), suggesting that students are actively motivated to engage in SAMR activities in addition to being aware of its advantages. Students' comparable motivational inclinations are further supported by the comparatively low standard deviation values (0.44–0.55). Overall, these results imply that SAMR not only improves students' comprehension of writing processes but also cultivates their

Table 6. Descriptive Statistics for the Experiences Category

| Statistics | Item 16 | Item 17 | Item 18 | Item 19 | Item 20 |
|----------------|---------|---------|---------|---------|---------|
| Mean | 3.09 | 3.51 | 2.17 | 1.97 | 3.11 |
| Std. Deviation | 0.51 | 0.56 | 0.62 | 0.75 | 0.58 |
| Minimum | 2 | 2 | 1 | 1 | 2 |
| Maximum | 4 | 4 | 4 | 4 | 4 |

A summary of descriptive statistics for the Experiences category reveals a somewhat mixed, though generally positive (79), trend in student attitudes toward essay writing activities using SAMR. Mean scores for items 16, 17 and 20 falls between 3.09 and 3.51, suggesting that students on the whole express positive beliefs with respect to working with the web-enhanced writing receiving activities in general. Conversely, the two negatively worded items (Items 18 and 19) had mean scores of M = 2.17 and M = 1.97 indicating that students tend to disagree with negative statements about their experiences overall. This would imply that their experiences were overall good. The values of the standard deviation (from 0.51 to 0.75) suggest that data are moderately variable. The negatively worded items exhibit a slightly greater spread, suggesting that people responded to them in a more diverse manner. Options ranged from a minimum score of 1 item to a maximum score of 4 items, suggesting the full scale was employed. Overall, these

findings indicate that the majority of students enjoy SAMR-based writing tasks; yet, some elements within them evoke different responses.

Table 7. Descriptive Statistics for the Expectations Category

| Statistics | Item 21 | Item 22 | Item 23 | Item 24 | Item 25 |
|-------------------|----------------|----------------|----------------|----------------|----------------|
| Mean | 3.37 | 3.57 | 3.23 | 3.31 | 3.49 |
| Std. Deviation | 0.60 | 0.50 | 0.49 | 0.47 | 0.51 |
| Minimum | 2 | 3 | 2 | 3 | 3 |
| Maximum | 4 | 4 | 4 | 4 | 4 |

Descriptive Statistics for Expectation The descriptive statistical value on the expectation item becomes the high-level of students' expectation towards the way of employing SAMR model in writing instruction. For items 21-25, the means are between 3.23 and 3.57, indicating that most students agreed or strongly agreed with the items. The SD values of 0.47-0.60 represent little to moderate variation. The implication of this is that most students have a common idea of writing activities in accordance to the SAMR model. The lowest score varies itself from 2 to 3, while for all issues the highest is always 4. This indicates that no student chose the extreme opposite and many indicated maximum agreement. These findings indicate that students held strong, hopeful expectations for SAMR's ability to support them with regard to learning and writing in the future.

Discussion

The results indicate that students viewed SAMR-based academic writing training favourably in terms of beliefs, values, reasons, experiences, and expectations. This pattern indicates that students did not react favourably solely due to the presence of technology in the classroom, but rather because the technology was integrated into a systematic educational framework that rendered writing tasks more comprehensible and doable. In this context, SAMR seems to have facilitated students' comprehension of the stages of academic writing, bolstered concept creation, and fostered greater engagement in the writing process. This may elucidate why the most robust responses were observed in domains related to belief, value, and motivation: when technology aligns with educational objectives, students are more inclined to perceive it as meaningful rather than onerous. These results align with prior research indicating that SAMR-based training enhances writing abilities and boosts engagement in writing activities (Capangpangan, 2023; Uke et al., 2024). This study enhances existing literature by demonstrating that the benefit of SAMR is found not only in performance outcomes but also in its role as a supportive learning framework for students.

In this study, SAMR appears to have served not merely as a technical model but as a cognitive scaffold. This is in line with a study from Dragomir and Todorescu (2025) and Drugova, et al. (2021). The elevated scores in beliefs and values signify robust cognitive endorsement of technology integration, aligning with technology adoption and TPACK-SAMR frameworks. Significantly, these data indicate that students perceived SAMR as a framework that mitigated ambiguity in the writing process. Writing is frequently regarded as cognitively taxing due to the simultaneous demands of planning, drafting, revising, and organising ideas. A structured framework like SAMR may have simplified this intricacy into more attainable steps, enhancing students' confidence and engagement. This interpretation is corroborated by prior research highlighting the significance of SAMR in structuring intricate learning activities (Arantes, 2022) and by studies indicating that technology-mediated feedback can enhance learner engagement and intrinsic motivation (Kormos, 2022). Collectively, these studies indicate that the favourable answers seen should not be perceived as mere individual views towards technology, but rather as

evidence that students regarded technology as pedagogically meaningful.

A more refined interpretation arises from the experience dimension, which exhibited somewhat larger variation than the other dimensions. While the majority of students dismissed unfavourable assertions regarding technology usage, their replies indicate that the acceptance of SAMR does not inherently resolve all challenges related to digital learning. A probable reason is that digital collaboration technologies require a distinct array of competencies, such as confidence, familiarity, and adaptability. Consequently, although students largely embraced the approach, their actual experiences were influenced by variations in previous digital exposure and preparedness. This conclusion aligns with research indicating that technology integration may be favourably regarded in theory, yet remains inconsistent in practice due to structural limitations, readiness, and differing degrees of digital proficiency (Zulfiani et al., 2025; Nualprasert et al., 2025; Wolff et al., 2021). This result is significant: it indicates that a positive perception should not be construed as proof of seamless execution. It underscores the necessity for support systems that cater to the practical requirements of digitally mediated writing assignments.

A significant observation is the comparatively minimal level of dissent about SAMR-related assertions. In contrast to previous studies highlighting hesitancy, inconsistent adaption, or pronounced disparities in digital confidence, the current findings suggest a more consistent attitude towards educational technology. A reason could be that pupils have become increasingly accustomed to digital learning settings due to years of heightened technology integration in school. If this is accurate, the findings may indicate a wider post-pandemic transformation in learner preparedness, wherein students now regard digital technologies not as alien novelties but as integral elements of academic endeavours. This interpretation is corroborated by Dragomir and Todorescu (2025), who discovered that students are progressively more at ease with AI and digital tools, despite their lingering uncertainty regarding the long-term consequences. This study posits that the primary difficulty in academic writing education is no longer the acceptance of technology by students, but rather the efficacy of its pedagogical organization.

This point elucidates the primary contribution of the work. Prior studies have frequently highlighted whether SAMR enhances performance or aids in technology integration. The current findings offer an additional viewpoint by illustrating that students view SAMR favourably due to its provision of instructional clarity, enhancement of motivation, and assistance in managing the requirements of academic writing. This study demonstrates that SAMR can serve concurrently as an educational framework, a motivational support, and a cognitive scaffold. This is significant for higher education as students' perspectives affect the likelihood of an educational technique being accepted, sustained, and effectively implemented over time.

The practical ramifications are substantial. The results indicate that SAMR provides educators with a systematic framework for developing writing instruction, progressing from basic technological applications to more transformative practices that facilitate drafting, rewriting, collaboration, and reflection. Nonetheless, favourable student opinions alone may not ensure successful implementation. The competence of lecturers remains paramount. Prior research indicates that insufficient technological pedagogical knowledge may diminish the efficacy of SAMR-based instruction (Uke et al., 2024b; Simonova et al., 2021). The efficacy of SAMR in academic writing relies not solely on the accessibility of digital tools, but also on the instructor's capacity to integrate those resources with pedagogical objectives. Institutional support is crucial, encompassing infrastructure, training, and access to digital resources. The growing prevalence of AI in writing teaching necessitates enhanced ethical guidelines. Kohnke and Zou (2025) assert that institutions require explicit guidelines for AI-assisted writing practices to ensure that innovation is both

pedagogically valid and ethically accountable.

The findings extend beyond a mere assertion that pupils appreciated the use of technology. This may be in line with Drugova's et al. study (2021). They demonstrate that students reacted favourably when technology was intentional, organised, and explicitly aligned with their educational requirements. This comprehensive synthesis is significant as it transitions the discourse from mere technology adoption to the calibre of educational design. The primary concern is not the technology itself, but rather its effectiveness in fostering a sense of support, organization, and competence among students throughout the writing process. From this viewpoint, SAMR is beneficial not only for its integration of technology into instruction but also for its potential to enhance students' confidence, engagement, and autonomy in academic writing.

Notwithstanding these advances, the study possesses several drawbacks. This descriptive quantitative study cannot determine causal correlations between SAMR deployment and enhancements in academic writing skills, in contrast to quasi-experimental studies like Alfiana et al. (2022) or Capangpangan (2023). The utilisation of self-reported data also introduces the potential for response bias, like a study from Prate et al. (2025). The study was confined to a single university and one writing course, hence limiting the generalisability of the results. A further disadvantage is that writing performance was not evaluated using rubric-based metrics, complicating the assessment of whether favourable perceptions correlated with quantifiable enhancements in writing quality. As cited in a study from Shiu (2025), the disparity in lecturers' proficiency with SAMR may have affected the uniformity of implementation.

Future studies should investigate SAMR in academic writing utilising mixed-methods, longitudinal, or experimental techniques. Such methodologies would elucidate not just if students regard SAMR favourably, but also how those perceptions correlate with enhanced writing performance. It would be beneficial to examine how perceptions vary among SAMR levels, institutions, and student demographics with varying levels of digital preparedness. Considering the swift advancement of generative AI in writing education, subsequent research should examine the ethical, transparent, and pedagogically sound integration of AI tools inside SAMR-based instruction such as AI-TPACK or e-CSAMR Shamir-Inbal & Blau (2021). Investigating lecturer preparedness, professional advancement, and the correlation between TPACK-SAMR proficiency and student performance would enhance comprehension of the factors contributing to the varying success of implementations..

CONCLUSION

This study indicates that EFL students have favorable beliefs, values, motives, and expectations about SAMR-based Basic Writing instruction, and their experiences are usually positive, but a little more diverse. It highlights SAMR as a pedagogical scaffold, evidenced in high student beliefs and expectations scores to demonstrate its utility in explicating writing practices. Nevertheless, mixed findings indicate that personal readiness and situational circumstances are determinant constituents. To maximize SAMR's potential in higher education, implications suggest strategic instructional design, educator TPACK-SAMR proficiency and institutional help to alleviate technostress. Suggestions are for professional development, trustworthy digital infrastructure, ethical AI guidelines and personalized scaffolding designed around diversity of technology skill, to design a sustainable approach that is also inclusive technology mediate-supported academic writing.

REFERENCES

- Alfiana, H., Karyono, H., & Gunawan, W. (2022). The Application of SAMR Model and Self-Efficacy on Critical Thinking and Procedural Knowledge. *LLT Journal: A Journal on Language and Language Teaching*, 25(1), 200–217. <https://doi.org/10.24071/llt.v25i1.3893>
- Arantes, J. (2022). The SAMR model as a framework for scaffolding online chat: a theoretical discussion of the SAMR model as a research method during these “interesting” times. *Qualitative Research Journal*, 22(3), 294–306. <https://doi.org/10.1108/QRJ-08-2021-0088>
- Bailey, S. (2025). *Academic writing: A handbook for international students* (6th ed.). Routledge. <https://doi.org/10.4324/9781003509264>
- Capangpangan, B. R. (2023). Writech: Enhancing Students’ Writing Skills Using the SAMR Model. *International Journal of Multidisciplinary: Applied Business and Education Research*, 4(4), 1404–1409. <https://doi.org/10.11594/ijmaber.04.04.34>
- De Castro, C. C., & Guia, A. (2025). Effectiveness of the SAMR Model for Enhancing Literature Instruction in Junior High School. *Journal of Interdisciplinary Perspectives*, 3(6). <https://doi.org/10.69569/jip.2025.211>
- Dragomir, G.-M., & Todorescu, L.-L. (2025). Students’ Perceptions of the Impact of Generative Artificial Intelligence (GenAI) on Learning in the Classroom or at Home. *Revista Romaneasca Pentru Educatie Multidimensionala*, 17(3), 451–471. <https://doi.org/10.18662/rrem/17.3/1030>
- Drugova, E., Zhuravleva, I., Aiusheeva, M., & Grits, D. (2021). Toward a model of learning innovation integration: TPACK-SAMR based analysis of the introduction of a digital learning environment in three Russian universities. *Education and Information Technologies*, 26(4), 4925–4942. <https://doi.org/10.1007/s10639-021-10514-2>
- Fleckenstein, J., Liebenow, L. W., & Meyer, J. (2023). Automated feedback and writing: A multi-level meta-analysis of effects on students' performance. *Frontiers in Artificial Intelligence*, 6, 1162454. <https://doi.org/10.3389/frai.2023.1162454>
- Hamilton, E. R., Rosenberg, J. M., & Akcaoglu, M. (2016). The substitution augmentation modification redefinition (SAMR) model: A critical review and suggestions for its use. *TechTrends*, 60(5), 433–441. <https://doi.org/10.1007/s11528-016-0091-y>
- Johnston, H., Wells, R. F., Shanks, E. M., Boey, T., & Parsons, B. N. (2024). Student perspectives on the use of generative artificial intelligence technologies in higher education. *International Journal for Educational Integrity*, 20, 2. <https://doi.org/10.1007/s40979-024-00149-4>
- Kohnke, L., & Zou, D. (2025). Artificial Intelligence Integration in <scp>TESOL</scp> Teacher Education: Promoting a Critical Lens Guided by <scp>TPACK</scp> and <scp>SAMR</scp>. *TESOL Quarterly*. <https://doi.org/10.1002/tesq.3396>
- Kormos, E. (2022). A comparison of preservice teacher perceptions of instructor video and text-based feedback. *SN Social Sciences*, 2(8), 153. <https://doi.org/10.1007/s43545-022-00413-9>
- Lestari, S., & Wahyuni Chasanatun, T. (2022). Evaluating M-Learning Activities Using SAMR Model and Students’ Writing Skills. *KnE Social Sciences*. <https://doi.org/10.18502/kss.v7i14.11993>
- Li, M. (2024). Non-native English-speaking (NNES) students’ English academic writing experiences in higher education: A meta-ethnographic qualitative synthesis. *Journal of English for Academic Purposes*, 71, 101430. <https://doi.org/10.1016/j.jeap.2024.101430>
- McCarthy, A. M., Maor, D., McConney, A., & Cavanaugh, C. (2023). Digital transformation in education: Critical components for leaders of system change.

- Social Sciences & Humanities Open, 8(1), 100479. <https://doi.org/10.1016/j.ssaho.2023.100479>
- Muslimin, A. I., Mukminatien, N., & Ivone, F. M. (2023). TPACK-SAMR digital literacy competence, technostress, and teaching performance: Correlational study among EFL lecturers. *Contemporary Educational Technology*, 15(2), ep409. <https://doi.org/10.30935/cedtech/12921>
- Muslimin, A. I., Mukminatien, N., & Ivone, F. M. (2024). Evaluating Cami AI across SAMR stages: Students' achievement and perceptions in EFL writing instruction. *Online Learning*, 28(2), 1–19. <https://doi.org/10.24059/olj.v28i2.4246>
- Nualprasert, B., Punkhoom, W., & Jehma, H. (2025). Reframing Digital Literacy in ELT: Integrating SAMR, AI-TPACK, and Connectivism in the Global South. *International Journal of Interactive Mobile Technologies (IJIM)*, 19(20), 55–68. <https://doi.org/10.3991/ijim.v19i20.56333>
- Prate, J., Kong, J., Hoque, L., Sugita, T., & Belom, T. (2025). A meta-analysis of technology usage in word problem solving interventions for elementary students: an application of the SAMR model. *Research and Practice in Technology Enhanced Learning*, 21, 001. <https://doi.org/10.58459/rptel.2026.21001>
- Rabenu, E., & Baruch, Y. (2025). Cyborging HRM theory: from evolution to revolution – the challenges and trajectories of AI for the future role of HRM. *Personnel Review*, 54(1), 174–198. <https://doi.org/10.1108/PR-02-2024-0111>
- Shamir-Inbal, T., & Blau, I. (2021). Characteristics of pedagogical change in integrating digital collaborative learning and their sustainability in a school culture: <sc>e-CSAMR</sc> framework. *Journal of Computer Assisted Learning*, 37(3), 825–838. <https://doi.org/10.1111/jcal.12526>
- Shiu, W. (2025). Conceptualising the Pedagogical Purposes of Technologies by Technological, Pedagogical Content Knowledge and Substitution, Augmentation, Modification and Redefinition in English as a Second Language Classrooms. *Education Sciences*, 15(4), 411. <https://doi.org/10.3390/educsci15040411>
- Simonova, I., Faltynkova, L., & Kostolanyova, K. (2021). Students' Reflection on Online Distance Learning: Advantages, Disadvantages, Recommendations (pp. 275–286). https://doi.org/10.1007/978-3-030-80504-3_23
- Timotheou, S., Miliou, O., Dimitriadis, Y., Villagr a Sobrino, S., Giannoutsou, N., Cachia, R., Mart nez Mon s, A., & Ioannou, A. (2023). Impacts of digital technologies on education and factors influencing schools' digital capacity and transformation: A literature review. *Education and Information Technologies*, 28, 6695–6726. <https://doi.org/10.1007/s10639-022-11431-8>
- Uke, W. A. S., Noni, N., Basri, M., & Muhammad, A. P. A. (2024). Enhancing Language Learning: Exploring TELL Implementation in Integrated Intensive Course through the SAMR Model. *Asian Journal of Education and Social Studies*, 50(10), 392–404. <https://doi.org/10.9734/ajess/2024/v50i101630>
- Umarova, Z. (2025). The Impact of the SAMR Model with IT-Enhanced Tools on Student Performance. *International Journal of Information and Education Technology*, 15(4), 760–766. <https://doi.org/10.18178/ijiet.2025.15.4.2281>
- Wolff, C. E., Jarodzka, H., & Boshuizen, H. P. A. (2021). Classroom Management Scripts: a Theoretical Model Contrasting Expert and Novice Teachers' Knowledge and Awareness of Classroom Events. *Educational Psychology Review*, 33(1), 131–148. <https://doi.org/10.1007/s10648-020-09542-0>
- Yu, H., & Yan, P. (2024). The academic writing challenges of undergraduate students: An exploratory study at a Sino-Foreign university in China. In B. Zou & T. Mahy (Eds.), *English for academic purposes in the EMI context in Asia* (pp. 15–43). Palgrave Macmillan. https://doi.org/10.1007/978-3-031-63638-7_2

- Yusuf, A., Pervin, N., & Román-González, M. (2024). Generative AI and the future of higher education: A threat to academic integrity or reformation? Evidence from multicultural perspectives. *International Journal of Educational Technology in Higher Education*, 21, 21. <https://doi.org/10.1186/s41239-024-00453-6>
- Zulfiani, Z., Suwarna, I. P., El Islami, R. A. Z., & Sari, I. J. (2025). Trends in SAMR research in teaching and learning from 2019 to 2024: A systematic review. *International Journal of Advanced and Applied Sciences*, 12(4), 99–106. <https://doi.org/10.21833/ijaas.2025.04.012>