

Developing Digital Interactive Media for Writing Using LUMI for International Class Students

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Abstrak. *This study aimed to develop interactive digital media for workplace writing using LUMI for International Class students at State Polytechnic of Malang. The study used Design and Development Research (DDR) and the ADDIE framework, which included five stages: analysis, design, development, implementation, and evaluation. The product, Clocked In: Workplace Writing Starts Here, was created using LUMI and H5P and covered eight workplace writing topics, such as job applications, professional emails, workplace instructions, meeting minutes, reports, and business pitch decks. The product was reviewed by a language expert and an IT expert and tested by 61 International Class students. The validation scores were 95.45% and 88.75%, while the user satisfaction score was 89.8%. The results showed that the media was valid and practical. Students also found the interactive activities, instant feedback, and repeated practice helpful for learning workplace writing independently.*

Keywords: *Design and Development Research; interactive digital media; International Class students; workplace writing; H5P; LUMI.*

Abstrak. Penelitian ini bertujuan untuk mengembangkan media digital interaktif untuk pembelajaran menulis di tempat kerja menggunakan LUMI bagi mahasiswa International Class di Politeknik Negeri Malang. Penelitian ini menggunakan Design and Development Research (DDR) dengan model ADDIE yang terdiri dari lima tahap, yaitu analisis, desain, pengembangan, implementasi, dan evaluasi. Produk yang dikembangkan berjudul *Clocked In: Workplace Writing Starts Here*. Produk ini dibuat menggunakan LUMI dan H5P serta mencakup delapan topik workplace writing, seperti dokumen lamaran kerja, email profesional, instruksi kerja, notulen rapat, deskripsi produk, laporan kerja, serta business pitch deck. Produk divalidasi oleh ahli bahasa dan ahli IT, kemudian diuji kepada 61 mahasiswa International Class. Hasil validasi menunjukkan skor 95,45% dari ahli bahasa dan 88,75% dari ahli IT. Sementara itu, tingkat kepuasan pengguna mencapai 89,8%. Hasil penelitian menunjukkan bahwa media yang dikembangkan valid dan praktis digunakan. Mahasiswa juga merasa bahwa aktivitas interaktif, umpan balik langsung, dan latihan berulang membantu mereka belajar dan berlatih workplace writing secara mandiri.

Kata Kunci: *kelas internasional; LUMI; media digital interaktif; penelitian pengembangan; workplace writing.*

PENDAHULUAN

The internationalization of higher education has increased the implementation of English as a Medium of Instruction (EMI) in universities worldwide, including Indonesia. Through EMI, English functions not only as a language subject but also as the primary medium for delivering academic content and facilitating classroom interaction (Despitasi, 2021). In international class programs, students are expected to participate in discussions, complete assignments, deliver presentations, and communicate academic knowledge in English. Consequently, students must demonstrate both content mastery and language proficiency to succeed in these learning environments (Bolton et al., 2023).

Among the four language skills, writing plays a particularly significant role in higher education because it serves as a medium for academic and professional communication. Students are required to produce various written texts, including reports, project documentation, essays, and reflective assignments. Beyond academic contexts, writing competence is also essential for workplace communication, such as preparing curriculum vitae (CVs), composing professional emails, writing reports, responding to complaints, and developing business proposals (Kleemola et al., 2022). Therefore, developing workplace writing skills has become increasingly important for students preparing to enter global professional environments.

Despite its importance, writing is widely recognized as one of the most challenging language skills to master. Writing requires learners to generate ideas, organize information coherently, employ appropriate vocabulary, and apply grammatical structures accurately (Roothoof et al., 2024). These challenges become even more complex in EMI settings, where students must communicate effectively in a second language while simultaneously engaging with academic content. As a result, many learners require continuous practice and support to develop effective writing competence.

The development of writing competence is closely related to the availability of meaningful practice opportunities and timely feedback. According to process-oriented approaches to writing, learners improve their writing performance through repeated cycles of drafting, revising, and reflecting on feedback. However, providing sufficient writing practice and individualized feedback within limited classroom hours remains a challenge for many instructors. Consequently, technology-enhanced learning environments have emerged as a promising solution to support writing instruction beyond traditional classroom settings.

Digital interactive learning media have been widely recognized for their ability to promote learner engagement, autonomy, and flexible access to learning materials. Interactive features such as quizzes, drag-and-drop activities, multimedia integration, and immediate feedback can facilitate active learning and encourage students to participate more actively in the learning process (Hidayat, 2022). Furthermore, interactive digital environments align with constructivist learning principles, which emphasize learners' active involvement in knowledge construction through meaningful learning experiences. In language learning contexts, digital media can provide opportunities for repeated practice and self-paced learning, both of which are important for writing development.

One platform that supports the creation of interactive digital learning materials is LUMI, an open-source authoring tool that integrates H5P interactive content. LUMI enables educators to develop various interactive learning activities, including quizzes, drag-and-drop exercises, interactive videos, branching scenarios, and self-assessment tasks. It is supported with the research that was done by Bextor (2024) who developed an H5P-based interactive learning medium for vocabulary learning and reported positive learning outcomes. However, the study did not address writing instruction or workplace communication skills.

The need for workplace-oriented writing materials was also identified at State Polytechnic of Malang. A preliminary study involving 45 international class students revealed that 67% of the participants perceived existing writing materials as insufficient to support their learning needs. Furthermore, 39 out of 45 respondents indicated that professional writing topics, such as business emails, reports, and curriculum vitae writing, were the areas they needed most. These findings suggest a mismatch between existing learning resources and students' professional communication needs, highlighting the necessity of developing more relevant and accessible learning materials.

To address this need, the present study developed an interactive digital learning medium entitled *Clocked In: Workplace Writing Starts Here* using LUMI integrated with H5P interactive activities. The development process followed the Design and Development Research (DDR) framework proposed by Richey and Klein (2014), which consists of analysis, design, development, implementation, and evaluation stages. The learning medium was designed to provide workplace-oriented writing materials and interactive activities that support independent learning and continuous writing practice.

The novelty of this study lies in three aspects. First, it develops a LUMI-based interactive learning medium specifically designed for workplace writing instruction, an area that has received limited attention in previous studies. Second, the product targets students enrolled in EMI-based international class programs, a population that remains underrepresented in digital writing research. Third, the study integrates workplace communication content with interactive H5P activities within a single digital learning environment to support self-directed learning and writing practice.

This study aims to develop and evaluate the validity and practicality of *Clocked In: Workplace Writing Starts Here* for international class students at State Polytechnic of Malang. The findings are expected to contribute to the growing literature on technology-enhanced language learning and workplace writing instruction. Practically, the developed product may serve as an alternative learning resource for higher education institutions seeking to support students' workplace communication skills through interactive and flexible digital learning environments.

KAJIAN TEORI

Interactive digital media allows learners to actively engage with learning content through activities such as answering questions, choosing options, and navigating digital materials. In vocational education, interactive media can support practice-oriented learning by providing structured and repeated activities that reflect real workplace situations (Wibawanto et al., 2022). Digital media also provides flexibility because materials can be accessed anytime and anywhere, supporting independent learning (Degner et al., 2022; Menrisal, 2022).

Previous studies have shown that students respond positively to interactive digital media because it can improve engagement, understanding, motivation, and ease of learning (Agustini et al., 2022; Asbah et al., 2025). Therefore, interactive digital media is considered suitable for vocational students who need practical and structured learning activities.

Effective interactive digital media should provide clear and well-organized content, appropriate multimedia elements, meaningful interaction, immediate feedback, and easy navigation (Ceken & Taskin, 2022; Yaseen et al., 2025). Usability is also important because simple navigation and ease of use can influence students' acceptance and satisfaction with digital learning media (Almusharraf, 2024).

Based on these criteria, the media developed in this study included organized learning materials, multimedia elements, H5P interactive activities, immediate feedback, simple navigation, and self-paced learning. These features were designed to support students in practicing workplace writing independently.

Writing is one of the most challenging English skills because it requires students to manage grammar, vocabulary, organization, and critical thinking at the same time (Hamdani & Abid, 2025). Students in international and English-medium programs may also experience difficulties

with grammar, vocabulary, organization, and coherence (Asnas & Hidayanti, 2024). Therefore, writing development requires continuous practice and appropriate learning support.

For students in international classes, writing skills are important not only for academic purposes but also for preparing them for communication in professional settings. Digital learning media can provide additional opportunities for students to practice writing and develop greater independence in learning.

H5P is an open-source tool for creating interactive learning content, including quizzes, drag-and-drop activities, flashcards, and interactive videos (Addhiny, 2021). LUMI is a desktop application that allows users to create, edit, and export H5P content without advanced programming skills (Yulia et al., 2025). Its interactive features can be used to support writing activities such as grammar practice, sentence construction, and text organization.

Previous research has found that LUMI-based learning media can be valid, practical, and useful for supporting independent learning (Yulia et al., 2025). Interactive and multimedia technologies have also been reported to support writing fluency, accuracy, organization, and motivation (Sholihah et al., 2025). These findings support the use of LUMI and H5P as tools for developing interactive workplace writing materials.

Previous studies have shown the potential of digital media, LUMI, and H5P in language learning. Nurfidah and Fandir (2024) found that digital learning platforms could support students' writing through feedback and interaction. Yulia et al. (2025), Rizka et al. (2025), Mutiara (2025), and Setiawan (2025) also demonstrated the usefulness of LUMI and H5P for developing interactive learning media. In addition, Cahyani et al. (2024) found that H5P-based learning materials supported independent English learning among International Class students at State Polytechnic of Malang.

However, previous studies mainly focused on general English, grammar, vocabulary, critical thinking, or other learning outcomes. There is still limited research on the development of LUMI-based interactive media specifically for workplace writing in higher education. Therefore, this study addresses this gap by developing and evaluating *Clocked In: Workplace Writing Starts Here* for International Class students at State Polytechnic of Malang.

METODE PENELITIAN

This study employed Design and Development Research (DDR) proposed by Richey and Klein (2014) using the ADDIE framework, which consists of Analysis, Design, Development, Implementation, and Evaluation stages. A mixed-methods approach was used to collect quantitative and qualitative data. The study was conducted at State Polytechnic of Malang and involved 45 International Class students in the needs analysis and 61 students in the product implementation, along with a language expert and an IT expert for product validation. Data were collected through needs analysis questionnaires, expert validation questionnaires, and user evaluation questionnaires containing closed-ended and open-ended questions. The development process began by identifying students' workplace writing needs, followed by designing and developing the learning materials and H5P-based interactive activities using LUMI. The developed product was then validated by the two experts, revised based on their feedback, and tested with the students to evaluate its practicality and usability. Quantitative data were analyzed using descriptive statistics and presented as percentages, while qualitative data from open-ended responses were analyzed descriptively to identify students' feedback and suggestions. The results from both types of data were used to determine the validity and practicality of the developed interactive digital learning media.

HASIL PENELITIAN DAN PEMBAHASAN

The development of the interactive digital media for writing began with a needs analysis involving International Class students at State Polytechnic of Malang. The purpose of the needs analysis was to identify students' English proficiency, existing learning materials, writing needs, and expectations toward digital learning media. A questionnaire consisting of 14 close-ended and open-ended questions was distributed to the students. The results provided the basis for determining the content, language level, learning activities, and overall design of the developed product.

The results of the English proficiency analysis showed that TOEIC was the most commonly taken English proficiency test, followed by PECT and TOEFL. Based on the reported proficiency results, 17 respondents (44.7%) were classified at B1 level, 13 respondents (34.2%) at B2 level, and 8 respondents (21.2%) at A2 level. The results indicated that most of the respondents were at the intermediate to upper-intermediate levels. Therefore, the learning materials were developed at the B1–B2 level to provide an appropriate level of difficulty for the target learners. The CEFR classification was used as a reference for determining the language level of the product rather than as a measurement of students' writing ability.

The needs analysis also revealed that the existing English learning materials did not fully meet students' needs. Of the respondents, 67% stated that the English materials provided in class were insufficient. This finding indicates that students required additional learning resources that could provide more opportunities to practise English, particularly writing skills. In terms of the purpose of learning English, 78% of respondents preferred English for Specific Purposes, while 22% preferred General English. This result demonstrates that most students expected English learning to be connected to specific academic or professional purposes rather than only general language use.

Professional or Practical Writing was identified as the most needed writing area. The students indicated that writing skills were important for preparing themselves for future professional environments. Their responses referred to practical writing needs such as writing CVs, emails, and other workplace-related documents. This finding became an important consideration in determining the focus of the developed media. Instead of developing a general writing module, the product was designed around workplace writing so that students could practise writing through situations that were relevant to their future professional needs.

The questionnaire also explored students' expectations toward interactive digital learning media. The results showed that students generally perceived interactive digital media as important for supporting English learning. The students expected the media to provide flexible access, immediate feedback, engaging activities, and opportunities for independent learning. Interactive exercises, step-by-step explanations, writing examples, and immediate feedback were among the features that students considered useful.

Based on these findings, the researcher developed an interactive digital module entitled *Clocked In: Workplace Writing Starts Here*. The module was developed using LUMI and H5P and focused on workplace writing. The product consisted of eight chapters covering different types of professional writing: Writing Job Application Documents, Writing Professional Workplace Emails, Writing Meeting Minutes, Writing Workplace Instructions and Guidelines, Writing Product or Service Descriptions, Writing Workplace Reports, Writing Complaint and Response Emails, and Writing a Business Pitch Deck.

The selection of these topics was intended to expose students to different types of writing that they may encounter in professional environments. Each chapter was designed around a workplace context and included explanations, examples, interactive activities, and writing tasks. By using workplace-oriented topics, the product attempted to connect English writing instruction with students' future professional communication needs.

The learning activities were also arranged progressively. Students were not immediately required to produce complete workplace documents. Instead, each chapter began with activities that introduced concepts, vocabulary, document structures, or language features before moving toward more complex practice and independent writing. This progression was intended to reduce the difficulty of writing tasks by allowing students to develop their understanding step by step.

Bloom's Taxonomy was used as a reference in arranging the learning activities. The activities moved from lower-order processes such as understanding and applying information toward higher-order processes such as analysing and creating. This sequence allowed students to first recognize the characteristics of workplace documents, practise specific components, and eventually apply their knowledge by producing their own written texts.

Several H5P activity types were incorporated into the product, including multiple-choice questions, fill-in-the-blank activities, drag-and-drop activities, drag-the-words activities, memory games, and essay activities. The variety of activities was intended to provide students with different ways to interact with the learning materials. The Essay feature was particularly important because the main focus of the product was writing. Through essay activities, students were given opportunities to practise producing workplace-related written responses. However, some planned activities had to be adjusted because certain features were not available in LUMI.

Visual elements were also incorporated into the product to support students' engagement with the materials. Blue and green were selected as the dominant colours, while an owl and a boy character were used as recurring visual elements. Images and other visual materials were included in warmer activities, learning materials, and interactive exercises. The consistent use of visual elements was intended to create a recognizable learning environment and make the digital module more engaging for students.

Table 1. Expert Validation Results

Validator	Average Score	Percentage
IT Expert	3.55	88.75%
Language Expert	3.82	95.45%

Table 1 shows, the result of expert validation. After the product was developed, expert validation was conducted to evaluate its quality before implementation. The validation involved two experts who evaluated different aspects of the product. An IT expert assessed the technical and functional aspects of the digital media, while a language expert assessed the language, learning materials, activities, and overall learning experience.

The IT expert validation consisted of 20 assessment criteria using a four-point Likert scale. The product obtained a total score of 71, with an average score of 3.55 and a percentage of 88.75%. This result indicated that the product performed well from a technical perspective. The H5P activities were considered functional and easy to use, and no major technical bugs were

identified during the evaluation. The expert considered the overall digital media to be appropriate for implementation.

Despite the positive result, the IT expert provided several suggestions for improvement. These included improving the consistency of formatting, particularly the use of fonts, font sizes, and headings. The expert also suggested increasing the variety of activities so that the product could provide a broader range of interactive learning experiences. These suggestions were considered during the revision stage before the product was implemented.

The language validation consisted of 22 assessment criteria. The product obtained a total score of 84, with an average score of 3.82 and a percentage of 95.45%. The result indicated that the language and learning content were considered highly appropriate. The language expert found that the materials, activities, multimedia components, and overall learning experience were suitable for the target students.

The language expert also provided recommendations to improve the product. The main recommendations concerned the clarity of instructions and the provision of examples. Improvements were also suggested regarding consistency in formatting, numbering, bullet points, and fonts. These suggestions were important because clear instructions are particularly necessary in digital learning environments, where students may complete activities independently without continuous teacher guidance.

The validation results therefore demonstrated that the product was feasible from both technical and language perspectives. The IT validation score of 88.75% and language validation score of 95.45% indicated that the developed media met most of the expected criteria. The feedback provided by the experts was used to revise the product before implementation. The revision process focused on improving instructions, examples, formatting, and selected activities.

Table 2 Summary of User Satisfaction Results

Indicator	Mean Score
Topic relevance	3.7
Clarity of explanations	3.7
Improvement of the skill	3.6
Ease of navigation	3.6
Interactive components	3.7
Learning motivation	3.6
Overall satisfaction	3.7
Overall Percentage	89.8%

Table 2 shows the results of the user satisfaction questionnaire administered after the implementation of *Clocked In: Workplace Writing Starts Here*. Following the revision stage, the product was implemented with 61 International Class students from ten study programs at State Polytechnic of Malang. The implementation was conducted through a “Reading and Writing Challenge,” which provided students with opportunities to access the digital learning media and complete the activities independently.

The implementation process began with the preparation of communication and information for the participants. A WhatsApp group was created to distribute announcements and provide information about the challenge. A digital pamphlet was also distributed to explain the challenge, learning media, procedures, and schedule. A briefing session was subsequently conducted through Zoom on June 14, 2026. The session was attended by 30 participants and introduced the purpose of the challenge as well as the procedures for accessing and using the digital media.

After the briefing, participants were given time to access the materials and complete the activities independently. The submission period remained open until June 19, 2026. Throughout the implementation, the researcher monitored students’ progress through LUMI’s report feature. The report provided information regarding participants’ completion status and performance for each activity. This feature allowed the researcher to monitor whether participants had completed the activities and observe their overall progress during the challenge.

After the participants completed the challenge, an evaluation was conducted through a user satisfaction questionnaire. The questionnaire consisted of 20 statements measured using a four-point Likert scale, ranging from Strongly Disagree to Strongly Agree. Open-ended questions were also provided so that participants could give comments and suggestions about the product.

The overall user satisfaction score was 89.8%. Most participants selected “Strongly Agree” and “Agree,” while no participant selected “Strongly Disagree” for any statement. Only a small number of participants selected “Disagree” on several items. The high overall score indicates that the participants generally had a positive perception of the developed digital media.

The responses regarding the content of the materials were particularly positive. The statement concerning the relevance of the reading and writing topics to students’ academic and professional needs received an average score of 3.7. Similarly, the statement concerning the clarity of definitions and examples also received an average score of 3.7. The statement concerning the ability of the lessons to improve students’ reading and writing skills received an average score of 3.6. These results indicate that the participants considered the content relevant, understandable, and beneficial for developing their English skills.

The participants also responded positively to the difficulty level and navigation of the product. The statement concerning the appropriateness of the difficulty level received an average score of 3.5, while the statement concerning the ease of navigation received an average score of 3.6. These results suggest that the B1–B2 level selected during the development stage was generally appropriate for the target learners and that the structure of the digital media was sufficiently accessible for independent use.

The interactive features were another important aspect of the participants’ responses. Approximately 43% of participants identified drag-and-drop and drag-the-words activities as the most useful features. Participants considered these activities engaging, enjoyable, and helpful for understanding the learning materials. Essay activities were the second most frequently mentioned feature, accounting for approximately 23% of responses. Other activities, including multiple-

choice questions, matching cards, memory games, and fill-in-the-blank exercises, accounted for approximately 34% of responses.

The participants' responses suggest that the combination of different H5P activities contributed to a more varied learning experience. Instead of presenting the materials only through explanations and examples, the product required students to interact directly with the content. For example, students could arrange parts of workplace documents, identify relevant information, complete missing elements, and practise writing before completing independent writing tasks.

Although the overall responses were positive, the participants also provided suggestions for improvement. Some participants suggested adding more videos, pictures, animations, audio, and other visual effects. Others requested a greater variety of activities. These suggestions indicate that students appreciated the interactive nature of the product but expected a broader range of multimedia and activity types in future development.

The findings of this study indicate that the developed digital interactive media addressed several needs identified during the preliminary analysis. The first important finding is that the product provided students with opportunities to practise workplace writing through professional documents and situations. The needs analysis showed that students preferred English for Specific Purposes and identified Professional or Practical Writing as an important area. Therefore, the workplace focus of the product was directly connected to the needs of the target learners.

The workplace context was reflected in the eight chapters developed in the module. Rather than focusing only on general writing structures, the materials introduced students to documents that may be encountered in professional environments, such as job application documents, professional emails, meeting minutes, workplace instructions, product descriptions, reports, complaint and response emails, and business pitch decks. This approach provided students with opportunities to see how writing is used for specific professional purposes.

The product was also designed using a gradual sequence of activities. Students were introduced to concepts and document features before completing more demanding activities. For example, students could first identify parts of a workplace document, then arrange or complete specific components, and finally produce their own written text. This progression allowed students to build their understanding before being asked to complete a more complex writing task.

The gradual structure is particularly relevant because writing involves multiple elements that students need to manage simultaneously. Previous research cited in the study, such as Anas and Hidayanti (2024), identified difficulties related to vocabulary, grammar, organization, and coherence in students' writing. By dividing complex writing tasks into smaller activities, the developed media provided students with opportunities to practise these elements before producing a complete document. The findings are also consistent with Wibawanto et al. (2022), who emphasized the usefulness of simulation-based multimedia and step-by-step practice in supporting practical skills in vocational education.

The second major finding concerns the role of interactive activities in supporting students' understanding of workplace writing. Participants particularly appreciated drag-and-drop and drag-the-words activities. These activities allowed students to interact directly with document structures and language elements instead of only reading explanations. For instance, students could arrange the structure of an email, identify components of workplace documents, organize information, and complete missing writing elements before moving to independent writing tasks.

This finding is in line with Addhiny (2021), who stated that H5P provides various interactive content types that can increase learner engagement. Activities such as drag-and-drop, quizzes, and memory games encourage students to interact actively with learning materials rather than passively reading explanations. Jacob and Centoifanti (2024) similarly argued that interactive elements in digital learning environments can improve learning experiences by encouraging active participation.

The finding is also consistent with previous studies of H5P and LUMI-based learning media. Cahyani et al. (2024) reported positive responses from International Class students toward interactive features such as quizzes and drag-and-drop activities. Yulia et al. (2025) also reported that LUMI-based learning media was practical and effective in supporting student learning, while Setiawan (2025) found that an interactive vocabulary book could increase student engagement and support independent learning.

The findings of the present study extend these previous findings by showing how interactive activities can be used specifically to support workplace writing. The activities did not function only as entertaining features but also as preparation activities for writing. Students could develop their understanding of document organization and key components before being asked to produce complete texts. Therefore, interactive activities served both instructional and preparatory functions in the writing process.

The third major finding is that the product supported independent learning. The digital format allowed students to access the materials and complete the activities without relying entirely on direct teacher guidance. Students could review explanations, complete activities, and repeat exercises according to their own pace. This flexibility was especially relevant during the implementation stage because students completed the challenge independently after the initial briefing.

Immediate feedback and retry opportunities were important features supporting this independent learning process. Students could identify mistakes and repeat activities without waiting for teacher evaluation. Repeated practice is particularly relevant to writing learning because improvement requires opportunities to practise, identify problems, and revise performance. Therefore, the product encouraged students to become more active in monitoring their own learning progress.

This finding supports Nurfidah and Fandir (2024), who concluded that digital platforms can support writing learning by providing opportunities for learners to study independently and access learning materials beyond classroom settings. The present study similarly demonstrates that a digital interactive module can provide additional learning opportunities outside conventional classroom instruction.

However, the study also identified an important limitation concerning writing assessment and feedback through LUMI. Although the platform provides scores and automated feedback, teachers or content developers cannot access students' individual responses to particular activities. As a result, the researcher can observe final scores and completion information but cannot fully review students' responses to identify the specific problems they experienced.

This limitation becomes particularly important in writing activities because writing is a productive skill that cannot always be evaluated using fixed answers. In this study, essay activities were included to provide opportunities for students to produce workplace documents. However,

because students' complete written responses could not be accessed through the platform, the assessment relied on keyword-based scoring through the H5P Essay feature.

To address this limitation, keywords commonly associated with particular workplace writing structures were incorporated into the activities. For example, in email-writing activities, words such as *Dear* and *Sincerely* were used as indicators of an appropriate email structure. Although this approach allowed the system to provide basic automated scoring, it could not fully represent students' actual writing performance.

Unlike objective activities, writing tasks may have multiple acceptable answers. Students may use different vocabulary, sentence structures, and organizational patterns while still successfully communicating the intended meaning. Therefore, keyword-based evaluation has limitations in assessing the overall quality of students' writing.

This finding is consistent with Nunes et al. (2021), who found that Automated Writing Evaluation systems can provide rapid feedback but cannot fully assess important aspects of writing, including idea development and overall writing quality. Ajabshir and Ebadi (2023) similarly reported that automated feedback can help improve certain language-related aspects but that teacher feedback remains necessary for improving overall writing quality. The study also refers to Hyland (2026), who argues that automated feedback systems cannot fully replace the contextual and pedagogical role of teachers in writing instruction.

Therefore, the use of LUMI in writing instruction should be viewed as a support for practice rather than a complete replacement for teacher assessment. The platform is useful for providing interactive activities, immediate feedback, repeated practice, and progress monitoring. However, for productive writing tasks, teacher involvement remains important to evaluate aspects that automated systems cannot fully capture, such as idea development, organization, coherence, appropriateness, and communicative effectiveness.

Overall, the findings demonstrate that the developed interactive digital media was able to address students' need for workplace-oriented writing materials and provide an engaging digital learning environment. The high expert validation scores and 89.8% user satisfaction score indicate that the product was positively received by both experts and students. The product also provided opportunities for students to practise workplace writing through various interactive activities and to learn independently.

At the same time, the findings suggest that future development should focus on improving the variety of multimedia and learning activities and strengthening the assessment of productive writing. Additional videos, audio, animations, and visual materials may provide greater variation in the learning experience, while teacher-assisted or alternative assessment mechanisms may provide more comprehensive feedback on students' written work.

Thus, the developed LUMI-based media can be considered a feasible supplementary learning resource for workplace writing among International Class students at State Polytechnic of Malang. Its main contribution lies in combining workplace-oriented writing content with interactive H5P activities, allowing students to learn professional writing through structured practice, immediate feedback, and independent learning opportunities.

KESIMPULAN

This study demonstrated that *Clocked In: Workplace Writing Starts Here*, an interactive digital learning medium developed using LUMI and H5P, addressed the workplace writing needs

of International Class students at State Polytechnic of Malang. The product was developed based on students' needs for practical and professional writing and covered eight workplace writing topics. Expert validation resulted in scores of 88.75% from the IT expert and 95.45% from the language expert, while user satisfaction reached 89.8%. These results indicate that the media was feasible and positively received by the students, with its interactive activities, immediate feedback, and self-paced learning supporting their engagement in workplace writing. However, LUMI has limitations in accessing students' complete written responses and providing comprehensive automated assessment, so teacher feedback remains important, particularly for evaluating organization, coherence, and idea development. Future development should include more comprehensive writing assessment and feedback, additional multimedia elements, and varied activities. Further research may also examine the media through larger-scale implementation and learning outcome measures. Overall, the developed media provides a practical supplementary resource for supporting workplace writing development among International Class students in higher education.

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