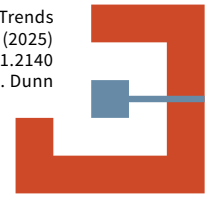
Trends

JALTCALL Trends
ISSN 2982-3749, 1, 2140 (2025)
https://doi.org/10.29140/jct.v1n1.2140



Castledown

Critical thinking in the digital age: CT through LMS-based classes

James D. Dunn
Meiji University
james.d.dunn@outlook.com

This paper explores the use of interactive digital printouts to enhance critical thinking in hybrid and online classrooms, particularly in language learning management systems. With the increasing adoption of digital tools, educators face opportunities to move beyond traditional printouts and create materials that engage students utilizing higher-order thinking and critical thinking skills. By leveraging features in Microsoft Word, such as content controls for rich text and plain text boxes, combo boxes, and drop-down lists, teachers can develop tasks that foster analysis, evaluation, and creativity – all of which are key components of critical thinking. This paper outlines steps for converting printouts into dynamic, electronic formats and demonstrates how these tools can be used to engage students in thinking more deeply. A short review of the literature highlights the benefits of digital tools in promoting critical thinking and supports the inclusion of hybrid learning models in modern classes. This paper will also provide theoretical backing for the integration of technology in fostering independent learning, higher-order thinking skills, and cognitive growth. The future of education lies in the ability to adapt teaching methods to an ever-changing technological landscape. Creating materials that educate and challenge students to think critically and creatively is crucial to students' success.

Keywords: critical thinking, LMS, digital printouts, material design

Introduction

The shift toward online and hybrid learning environments has accelerated, driven by advancements in technology and further strengthened by the COVID-19 pandemic. In this new reality, traditional printouts, while useful, may no longer fully meet the demands of a classroom where engagement, critical thinking, and interactivity (in-person or online) are incredibly important as learning tools for language acquisition and vocabulary integration (Harizaj & Hajrulla, 2017; Li, 2023), in addition to the push by the Japanese government to further integrate these types of tasks into general English education (MEXT, 2011). The ability to create supplemental, interactive

digital printouts has become an essential tool for educators striving to foster deeper learning and student engagement in online and hybrid classes.

Critical thinking, often defined as the ability to think clearly and rationally, is a key skill in modern education, particularly in second-language learning environments, where students must analyze, evaluate, and apply new knowledge in a language other than their mother tongue. In addition, the Japanese Ministry of Education has asked teachers to implement logic and critical thinking into English language learning classes (Ministry of Education, Culture, Sports, Science and Technology [MEXT], 2011). This paper explores how interactive digital printouts can be designed and implemented to enhance critical thinking in both hybrid and online classrooms. By leveraging tools available in Microsoft Word, such as interactive content controls, educators can create customized learning materials that go beyond simple memorization tasks, encouraging higher-order thinking and critical thinking skills.

Literature review

The integration of digital tools into education has significantly changed how critical thinking can be developed in hybrid classrooms both in Japan and abroad. Various studies have explored how technology enhances cognitive engagement, particularly through interactive and personalized learning materials.

Bloom's Taxonomy in digital learning environments

Bloom's revised taxonomy (Anderson & Krathwohl, 2001) offers a structured approach to understanding how students move from lower-order thinking skills to higher-order ones. The taxonomy is broken down into specific levels – remembering, understanding, applying, analyzing, evaluating, and creating – which serve as a framework for designing tasks and materials that foster cognitive growth. In digital learning environments, these levels can be addressed through verbs (or actions expected of students in an activity) that encourage students to apply, analyze, and create new knowledge. According to Thompson (2020), using digital tools like interactive printouts provide students with opportunities to practice higher-order thinking in a controlled yet flexible way.

The role of technology in enhancing critical thinking

Research has shown that the inclusion of technology in educational settings can positively impact students' critical thinking skills. In a meta-analysis by Abrami et al. (2015), digital platforms were found to significantly enhance students' abilities to evaluate, analyze, and synthesize information compared to traditional methods. The authors argue that interactive elements, such as the content controls available in programs like Microsoft Word, provide students with tasks that require deeper cognitive engagement, promoting reflective and independent thinking. These tools assist in content delivery and actively guide students toward critical thinking by encouraging them to process information through multiple filters of critical thought.

Effectiveness of digital tools in hybrid language learning

In hybrid learning environments, where students engage in both online and face-to-face activities, the use of digital tools becomes even more critical. Dziuban et al. (2018) found that hybrid learning models, when integrated with digital resources, lead to higher levels of student engagement and academic performance. Digital printouts, particularly those with interactive elements like drop-down menus and fill-in-the-blank exercises, help bridge the gap between in-class and at-home learning, helping students remain cognitively engaged in both environments. Moreover, digital tools can provide immediate feedback, allowing students to self-correct and reflect on their learning processes directly after completing an activity.

Critical thinking in language learning

Critical thinking is vital in language learning as it pushes students beyond simple recall or comprehension, requiring deeper cognitive engagement. In a language classroom, higher-order thinking skills (HOTS) like analyzing, evaluating, and creating are essential for meaningful language use. According to Anderson and Krathwohl's (2001) revised Bloom's Taxonomy, activities that require analysis and evaluation foster critical thinking, as students must manipulate the information they've learned rather than simply memorize and regurgitate it onto a test.

For example, when students are tasked with categorizing vocabulary or analyzing sentence structure, they engage in tasks that demand deeper understanding. By integrating digital printouts with interactive elements, educators can structure these tasks to guide students toward deeper thinking. Digital tools, such as Microsoft Word's content controls described in this paper, allow teachers to present vocabulary or grammar in ways that encourage students to make connections, think critically, utilize HOTS, and create their own responses. These findings align with Abrami et al. (2015), which elucidate how technology can elevate students' critical thinking by promoting reflective and independent thought through learning.

Why electronic formats?

An electronic format for classroom materials offers numerous advantages, especially in hybrid or online only environments. Traditional printouts, while effective for basic learning tasks, lack the interactivity and flexibility required to foster critical thinking. Electronic printouts, however, allow for the integration of various tools – such as drop-down menus, fill-in-the-blank fields, and combo-boxes – that can make learning more dynamic.

The immediate feedback that digital formats can provide is particularly valuable in language learning. As noted by Dziuban et al. (2018), students in hybrid learning environments often benefit from interactive content that bridges the gap between synchronous and asynchronous learning. The ability for students to complete exercises, receive feedback, and revise their work in real time helps them engage more deeply with the material. This also allows educators to structure tasks that test recall and encourage higher-order thinking, such as evaluating different language structures or creating original sentences.

Steps to convert a printout into an electronic format

Although making an interactive Word document may sound difficult, the process is quite simple. To create digital printouts that encourage critical thinking, you can follow these steps:

Step 1: First, access the interactive content tools available in Microsoft Word by enabling the "Developer" tab. The "Developer" tab can be accessed by customizing the ribbon of Word. This can be done by right-clicking on the tools area and clicking on "Customize the Ribbon" (see Figure 1). After enabling the Developer tick-box (see Figure 2), this new tab provides access to several content controls – such as Rich-Text, Plain-Text, Combo-box, and Drop-down List controls – essential for creating dynamic and interactive tasks.

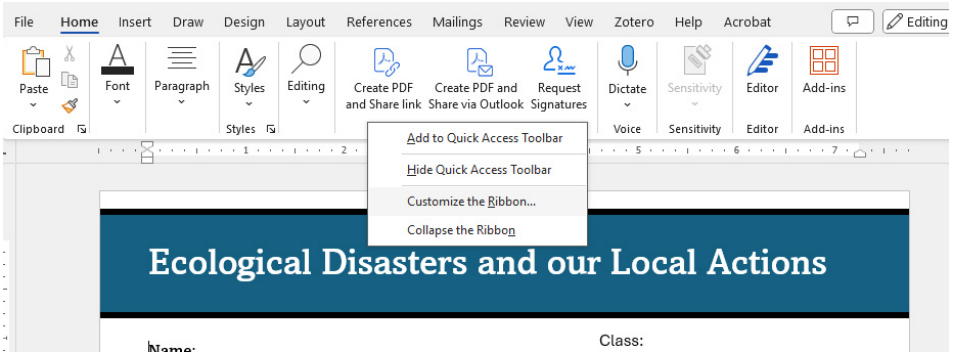


Figure 1. Finding the developer tab

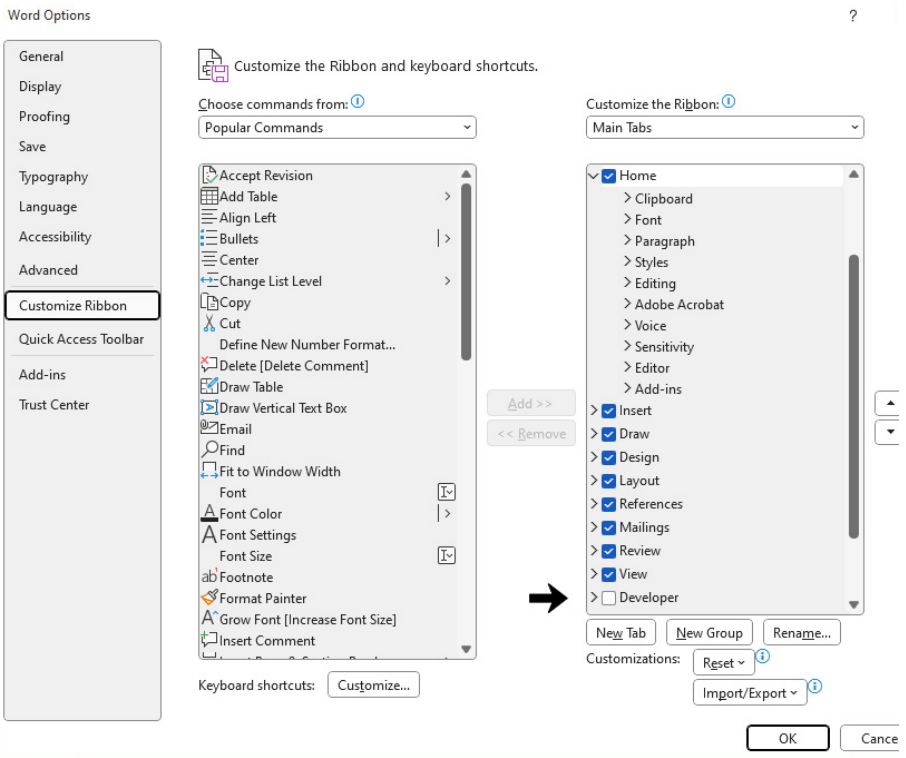


Figure 2. Enabling the developer tab

Step 2: Using the Developer Tools (see Figure 3), Content Controls, Rich-Text, and Plain-Text tools allows teachers to insert fields where students can input their own responses or, if needed, content the teacher specifies. For example, a fill-in-the-blank task could require students to recall vocabulary words or grammatical structures. The combo-box and drop-down list controls are particularly useful for creating multiple-choice exercises, guiding students toward higher-order and critical thinking by giving them options to evaluate and select from.

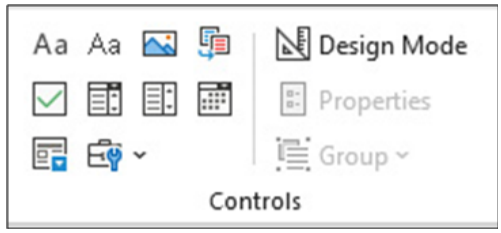


Figure 3. Developer tools

Step 3: Customizing interaction for critical thinking by using interactive content controls, teachers can structure tasks that challenge students to analyze and evaluate information. For instance, a drop-down list could be used to provide multiple options for completing a sentence, requiring students to think critically about which option fits best. Similarly, combo-boxes can allow students to input their own words, encouraging creativity and application of language skills (see Figure 4).

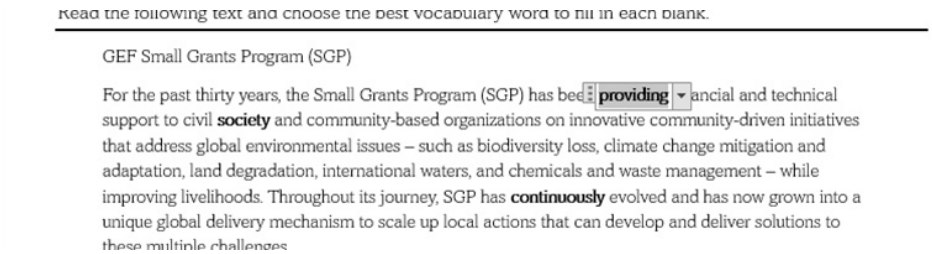


Figure 4. Example of combo-boxes in action

Step 4: Formatting and Submission Control Formatting options within Word's content controls allow educators to control how students interact with the document. By limiting text fields or controlling font sizes, teachers can ensure that students submit their work in a uniform format (see Figure 5), which simplifies grading. Dziuban et al. (2018) emphasize the importance of structured formats in hybrid learning environments, as they provide clarity for both students and teachers in managing assignments.

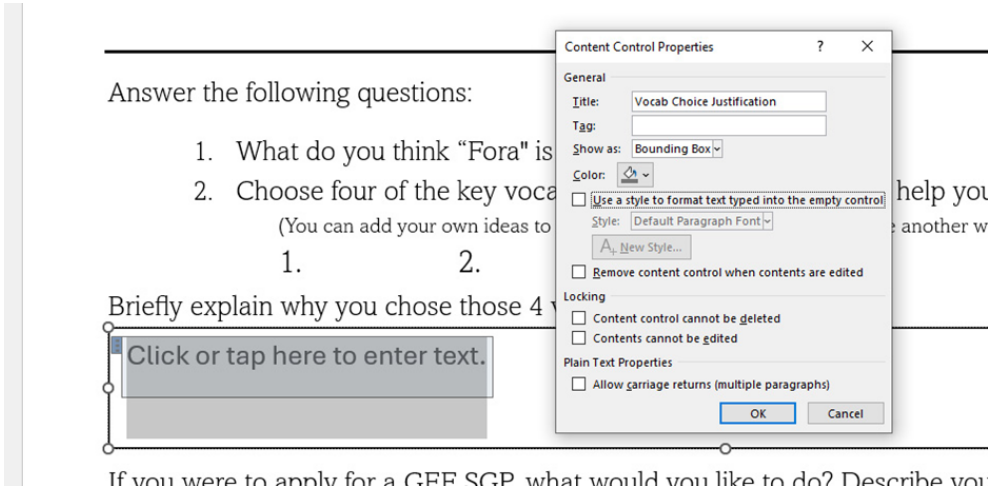


Figure 5. Limiting text field input area

Step 5: Grading and Feedback Digital printouts can be designed to include feedback mechanisms, allowing students to review their responses and make corrections immediately. Formative assessments such as this help students identify areas of improvement and encourage self-reflection, which is critical for the development of independent thinking. As Abrami et al. (2015) note, providing real-time feedback on digital platforms helps to reinforce critical thinking by prompting students to reconsider their initial answers.

Conclusion

In today's hybrid and online classrooms, transitioning from traditional printouts to interactive digital formats offers a valuable opportunity to foster critical thinking skills. By leveraging tools like Microsoft Word's interactive content controls, educators can create customized learning materials that go beyond rote memorization and encourage students to engage in higher-order thinking tasks, such as analysis, evaluation, and creation.

The benefits of using digital printouts are numerous. Not only do they make learning materials more accessible and interactive, but they also allow for real-time feedback and self-assessment, which are crucial for independent learning. As the literature has shown, the integration of digital tools in the classroom enhances student engagement and promotes critical thinking. The steps outlined in this paper provide educators with a practical approach to converting traditional printouts into interactive, engaging materials that cater to the diverse needs of students in hybrid learning environments.

Ultimately, the future of education lies in harnessing technology to develop critical thinking, creativity, and independent problem-solving skills. By continuing to innovate and adapt, educators can provide students with the tools they need to succeed in an increasingly digital world.

References

Abrami, P. C., Bernard, R. M., Borokhovski, E., Waddington, D. I., Wade, C. A., & Persson, T. (2015). Strategies for teaching students to think critically: A meta-analysis. *Review of Educational Research, 85*(2), 275–314. https://doi.org/10.3102/0034654314558493

Anderson, L. W., & Krathwohl, D. R. (Eds.). (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Longman.

Dziuban, C., Graham, C. R., Moskal, P. D., Norberg, A., & Sicilia, N. (2018). Blended learning: The new normal and emerging technologies. *International Journal of Educational Technology in Higher Education, 15*(3), 1–16. https://doi.org/10.1186/s41239-017-0087-5

Harizaj, M., & Hajrulla, V. (2017). Fostering learner's critical thinking skills in EFL: Some practical activities. *European Scientific Journal, 13*(29), 126–133. https://eujournal.org/index.php/esj/article/view/10026/9516

Li, L. (2023). Critical thinking from the ground up: teachers' conceptions and practice in EFL classrooms. *Teachers and Teaching: Theory and Practice, 29*(6), 571–593. https://doi.org/10.1080/13540602.2023.2191182

Ministry of Education, Culture, Sports, Science and Technology (MEXT). (2011). Daigaku ni okeru kyōiku naiyōtō no kaikaku jōkyō [Reform in higher education]. Retrieved from https://www.mext.go.jp/component/english/__icsFiles/afieldfile/2011/03/07/1303008_003.pdf

Thompson, A. (2020). *Bloom's taxonomy in digital learning environments: A framework for higher-order thinking*. Educational Researcher Press.

Author biodata

James D. Dunn has been teaching EFL in Japan for two decades. Recently, James has focused on the effect of critical thinking and language acquisition in game-based learning. James is the President of the Critical Thinking SIG and an active member of the BRAIN, CALL, Vocab. and CUE SIGs.