

Inclusive Word Processing Without Equal Device Access: A Low-Resource Instructional Design

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Abstract

A learning activity sheet on formatting text and paragraphs in Microsoft Word provides a useful starting point for basic digital-skills instruction, particularly where learners rely on printed modules, shared computers, mobile office applications, or intermittent teacher support. Procedural directions alone, however, do not ensure transferable digital literacy. This conceptual case analysis examines the supplied Grade 8 activity sheet for coherence, outcome-task alignment, platform dependence, accessibility, feedback, and authentic performance. The analysis identifies five design tensions: an Excel-related activity embedded in a Word lesson; recall-heavy assessment that only partially measures document-production skill; instructions tied to one desktop interface; unequal access to devices and printing; and language or item ambiguities that weaken validity. In response, the article proposes the TRACE framework: Target an observable performance, Represent the process through accessible alternatives, Activate learning through modeled and guided practice, Check performance with usable feedback, and Extend competence across platforms and authentic tasks. A redesigned instructional sequence shows how the original content can be retained while shifting from command recognition toward purposeful document creation. The framework supports teachers, learning-resource evaluators, and publishers who adapt digital-skills materials for low-resource and device-diverse settings.

Keywords: digital literacy; word processing; learning activity sheets; instructional alignment; universal design for learning; low-resource education

1. Introduction

Word-processing competence is frequently introduced through visible commands: select text, choose a font, change size, apply bold or italics, align a paragraph, preview a page, and print. These operations matter, but learners need more than command recognition. They must connect a formatting choice with communicative purpose, navigate differences between software versions, recover from errors, judge readability, and produce a document that another person can use. Digital literacy therefore involves purposeful action and judgment rather than memorization of interface labels.

The supplied learning activity sheet, Internet and Computing Fundamentals 8, presents background information, step-by-step exercises, a word search, true-or-false items, multiple-choice questions, and directions for previewing and printing. It was designed for circumstances in which some learners might have a computer, others might use a phone and a mobile office application, and still others might read the procedure for later practice. This accommodation is valuable because it recognizes unequal device access. At the same time, the material illustrates a persistent design problem: how can a printed procedure teach a skill that is interactive, visual, and dependent on changing interfaces?

This article treats the activity sheet as a case for instructional redesign. It does not evaluate learner outcomes or claim that the material caused a particular effect. Instead, it analyzes the relationship among stated content, learning activity, assessment, access conditions, and expected performance, then proposes a reusable framework for improving comparable digital-skills resources.

2. Case Material and Analytical Approach

The case material is a five-page Grade 8 learning activity sheet prepared for third-quarter instruction. Its core content covers changing font and font size, applying character attributes, formatting paragraphs, and using print preview. It asks learners to type a short message, format selected text, save the document, and answer recognition items. The sheet also acknowledges computer and smartphone routes and permits deferred practice when no device is available.

The analysis uses six instructional-quality questions. First, is the target skill observable and internally coherent? Second, do explanations and activities prepare learners for that skill? Third, does assessment measure performance rather than peripheral recall? Fourth, can learners with different devices, connectivity, language, or accessibility needs participate? Fifth, is feedback available when errors occur? Sixth, can the learned strategy transfer beyond a particular menu location or software version? These questions reflect constructive alignment, learning-resource quality assurance, universal design for learning, and the need to keep digital instructions current (Biggs, 1996; CAST, 2018; Department of Education, 2009).

3. Instructional Design Diagnosis

3.1 Content coherence and alignment

The lesson title and explanatory content concern Word document formatting, but the first activity asks learners to find terms related to navigating Excel and performing mathematical operations. That activity may be useful elsewhere in the course, yet it does not supply evidence that a learner can format text or

paragraphs. Removing or relocating it would strengthen coherence. A replacement could ask learners to match document purposes—title, quotation, warning, body text, or list—with defensible formatting decisions.

The stated content emphasizes commands, while several assessment items emphasize terminology or isolated facts. Recognition can support early learning, but it should not substitute for production. If the intended outcome is to format a document effectively, the strongest evidence is a readable document accompanied by a brief explanation of selected choices.

3.2 From procedural compliance to purposeful performance

The worked procedure gives useful guidance, including selecting text before applying formatting and observing live preview. Yet exact specifications such as one named font or a particular size can become arbitrary unless connected to purpose. Learners may successfully reproduce Century Gothic at 18 points without understanding when that choice is readable, appropriate, or consistent. A stronger task asks them to create a thank-you message with a clear heading, readable body, visible name, and balanced spacing, then justify how formatting supports the reader.

3.3 Platform and version dependence

Desktop Word, Word for the web, mobile Word, and other office applications do not present every feature in the same location. Microsoft notes that browser and desktop versions differ in page-formatting behavior, while its current print guidance places preview under File and Print. Instructions should therefore teach stable concepts—select, format, structure, preview, save, and verify—while providing platform-specific routes as examples rather than universal truths. Screenshots should identify the software version and be replaceable without rewriting the entire lesson.

3.4 Access and accessibility

The original sheet appropriately permits mobile work and later practice, but access involves more than device possession. Small screens, limited data, lack of printers, motor or visual differences, and unfamiliar interface language can affect participation. CAST's Universal Design for Learning guidelines encourage multiple means of engagement, representation, and action or expression. Microsoft accessibility guidance also recommends meaningful heading styles and adequate contrast. A revised material should allow keyboard, touch, or assisted routes; provide printable and low-bandwidth examples; avoid making printing the only proof of learning; and accept a saved file, screenshot, or teacher-observed performance when these demonstrate the same skill.

3.5 Language, accuracy, and quality assurance

Several assessment statements are ambiguous or grammatically unstable. For example, asking whether clicking the File tab is the “last step” in printing conflicts with the sequence in which File is opened before Print and before final print confirmation. Items should measure one defensible proposition, use parallel options, and avoid interface trivia likely to change. Independent content, language, and accessibility reviews are therefore essential before reproduction.

4. The TRACE Framework for Digital-Skills Materials

4.1 Target an observable performance

Specify what the learner will produce and the quality that makes it successful. A suitable target is: “Create and save a one-paragraph message with a clear heading, readable body text, purposeful emphasis, consistent paragraph alignment, and a checked page layout.” This target identifies both action and evidence. It also prevents unrelated activities from occupying assessment time.

4.2 Represent the process through accessible alternatives

Show the relationship among concept, purpose, and command. A printed sequence can pair a plain-language description with a screenshot, a keyboard shortcut where available, and a platform-neutral cue. For example: “Select the text, open font controls, choose a readable typeface, and preview the change.” A version note may then show where those controls appear in a specific application. Learners should be able to access the explanation through text, labeled images, teacher demonstration, or an offline sample file.

4.3 Activate learning through modeling and guided practice

Begin with a worked example that exposes decisions. The teacher or material can compare a cluttered message and a readable version, then explain why excessive fonts, tiny text, weak contrast, or inconsistent alignment interferes with meaning. Guided practice should require one change at a time and include a way to undo it. Independent practice should combine the skills in a meaningful product rather than repeat isolated clicks.

4.4 Check performance with usable feedback

Assessment should use an artifact and concise criteria: content complete, heading distinguishable, body readable, emphasis purposeful, paragraph alignment consistent, file saved correctly, and layout reviewed. The learner should receive information about the next action and an opportunity to revise.

True-or-false or multiple-choice questions may check vocabulary, but they should remain secondary to demonstrated performance.

4.5 Extend competence across platforms and tasks

Transfer is visible when learners can locate an equivalent function in a different application, explain a formatting choice, repair a poorly formatted document, or adapt a message for another audience. The lesson should therefore close with comparison and reflection: which features remained stable, what moved to a different menu, what made the document easier to read, and how the learner verified the final file.

5. A Redesigned Learning Sequence

Phase	Learner action	Evidence and support
Orient	Inspect two differently formatted messages and identify which is easier to use.	Purpose and success criteria are made visible.
Model	Follow a labeled demonstration of selection, font, emphasis, paragraph alignment, save, and preview.	Printed, projected, keyboard, touch, or offline routes may be used.
Guide	Format a short message one feature at a time and compare the result with criteria.	Hints, undo practice, and teacher or peer feedback support recovery.
Perform	Create a complete thank-you or community notice for a real audience.	Saved file, screenshot, printout, or observed performance demonstrates the skill.
Revise	Use feedback to correct readability, consistency, filename, or layout.	Revision is required before final evaluation.
Transfer	Repair a poorly formatted document or repeat the task in another editor.	Learner explains which principles stayed constant across platforms.

Table 1. Suggested sequence for performance-based word-processing instruction.

6. Implications for Teachers, Evaluators, and Publishers

Teachers can preserve the original lesson’s practical strengths—short directions, familiar content, explicit steps, and recognition of mobile access—while changing the unit of success from command recall to usable document production. Learning-resource evaluators should check whether each activity contributes to the stated outcome, whether instructions remain accurate across versions, whether the assessment samples the intended performance, and whether learners have realistic routes to feedback and revision.

Publishers should maintain editable source files, record software and screenshot versions, verify permissions for images and borrowed content, test grayscale reproduction, and schedule periodic technical review. UNESCO’s Recommendation on Open Educational Resources emphasizes capacity to

adapt and redistribute resources while encouraging inclusive and equitable quality. Version-aware authoring supports that goal because educators can update an interface example without discarding the instructional principles.

The TRACE framework is intentionally platform-neutral. It does not require one brand of software, one typeface, or one device. Its core claim is that digital-skills instruction becomes stronger when targets, representations, practice, evidence, and transfer are designed as a coherent system.

7. Conclusion

The supplied activity sheet contains a useful procedural foundation for introducing document formatting, particularly in settings where printed guidance and uneven device access shape instruction. To function as a stronger learning resource, it needs closer alignment, authentic performance evidence, accessible alternatives, clearer language, version-aware directions, feedback, and transfer. TRACE offers a practical redesign pathway: target the performance, represent the process, activate guided learning, check with feedback, and extend competence beyond one interface. Applied carefully, this approach can transform a command-centered worksheet into inclusive digital-literacy instruction.

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