



KORESIA: DEVELOPMENT AND VALIDATION OF AN INTEGRATED DIGITAL LEARNING PLATFORM FOR CORRESPONDENCE IN OFFICE ADMINISTRATION EDUCATION

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ABSTRACT

Phenomenon/Issue: Vocational high school (SMK) graduates in Indonesia continue to record the highest open unemployment rate among all education levels, reaching 9.01% in August 2024 against a national average of 4.91%, a gap consistent with long standing concerns about vocational skills instruction quality, including correspondence competencies in Office Administration Education, where digital learning media remain fragmented across separate platforms for materials, practice, and evaluation.

Purpose: This study developed and validated KORESIA, an integrated digital correspondence learning media, and examined its practicality among vocational high school students

Novelty: KORESIA integrates materials, instructional video, structured procedural practice for letter typing, letter folding, and telephone handling, and automated evaluation within a single platform, evaluated through a staged mechanism combining expert validation with progressively broader user testing.

Research Methods: Using a Research and Development approach guided by the ADDIE model, the product was validated by two media experts and two content experts on a 1-5 Likert instrument, then tested through a one-to-one trial (three students per school) and a small group trial (six to seven students per school) at SMKN 62 Jakarta and SMKN 40 Jakarta.

Results: Media validation scores ranged from 76.25% to 81.33% (Feasible to Highly Feasible), content validation scores ranged from 96.67% to 100% (Highly Feasible), and practicality scores across both trial stages and schools averaged 92.31% (Highly Practical).

Research Contributions: This study offers an empirically validated model for integrated digital correspondence learning media and practical guidance for developing similarly integrated media for other procedurally demanding vocational competencies.

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INTRODUCTION

Digital transformation continues to reshape how instruction is planned and delivered. In vocational education, this shift is particularly important because learning is judged not only by content recall but by learners' ability to perform workplace procedures reliably. Digital tools are most effective when their design is deliberately aligned with occupational competencies (Crompton & Burke, 2018; Tamim et al., 2011; Wu et al., 2025). This alignment remains limited in correspondence instruction within Office Administration Education, where students must develop procedural skills such as drafting and typing business letters, folding letters correctly, and handling telephone calls through repeated, guided practice. This challenge is particularly relevant in Indonesia, where SMK graduates recorded an open unemployment rate of 9.01% in August 2024, nearly twice the national average of 4.91% (GoodStats, 2024), highlighting persistent concerns about the quality of vocational instruction.

Digital media used for correspondence instruction have not fully addressed this gap. Materials, guided practice, and evaluation are often distributed across separate platforms, leaving students to construct a coherent learning pathway themselves (Aji & Puspasari, 2021). Without scaffolding and graduated practice, digitized content may offer little beyond conventional presentation (Schmid et al., 2014). Recent development studies, however, show that interactive multimedia can improve learning when practice and feedback are deliberately embedded in the design (Alyusfitri et al., 2024), while ADDIE-based media validated through structured expert review have demonstrated good reliability and learner acceptance (Haolader, 2023). In Indonesian Office Administration Education, studies on interactive video tutorials for office technology (Aji & Puspasari, 2021) and augmented reality modules for office technology and correspondence (Ramadhani & Rosy, 2023) similarly indicate that media combining clear objectives with structured, hands on practice are more favorably received than content-focused media.

Nevertheless, three gaps remain. First, a contextual gap exists because correspondence, despite its procedural demands, has received comparatively limited attention as a standalone focus of digital media development, with previous studies more commonly addressing office technology or records management. Second, a product gap exists because materials, practice, and evaluation are often separated across platforms rather than integrated into a single instructional sequence. Third, a methodological gap exists because relatively few studies combine expert validation with staged, aspect specific practicality testing that distinguishes validity and practicality across instructional components rather than relying on a single overall score.

KORESIA was developed to address these gaps as a web-based digital learning medium for correspondence instruction that integrates learning materials, instructional videos, structured procedural practice, and automated evaluation within one platform. The content covers letter typing, eight types of letter folding, and telephone-handling procedures. Its contribution lies not simply in applying digital media to Office Administration Education, but in operationalizing integrated digital learning for correspondence as a distinct procedural competency, supported by validation evidence disaggregated by instructional aspect and trial stage. This study reports the first-year development and validation of KORESIA and addresses two questions: (1) how valid is KORESIA according to media and content experts across assessed aspects; and (2) how practical is KORESIA for vocational high school students based on staged one-to-one and small-group trials at two partner schools?

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The ADDIE Model in Vocational Digital Learning Media Development

The ADDIE model Analysis, Design, Development, Implementation, and Evaluation remains one of the most widely used instructional-design frameworks for digital learning media because its stages are sequential, traceable, and easy to audit (Branch, 2009; Molenda, 2003). It functions as a procedural scaffold in which each stage produces an artifact that the next stage builds on, part of why it continues to be favored over more elaborate models (Richey & Klein, 2007; Gustafson & Branch, 2002). ADDIE based products in vocational education are conventionally expected to satisfy two criteria: validity, through structured expert review, and practicality, through staged user testing (Tegeh et al., 2014).

Recent TVET applications show a carefully validated ADDIE-based design can remain reliable and well accepted by learners even under constrained conditions (Haolader, 2023), while interactive multimedia validated through a comparable process has been linked to measurable learning gains (Alyusfitri et al., 2024).

Digital Media for Office Administration and Correspondence Instruction

Prior media-development studies in Indonesian Office Administration Education illustrate a consistent pattern rather than a single dominant product. An interactive video-tutorial medium for office technology (Aji & Puspasari, 2021) and an Augmented-Reality-based module for office technology and correspondence (Ramadhani & Rosy, 2023) both link stronger validator and student responses to media pairing clear objectives with structured, hands-on practice. A quasi-experimental study on a commercial typing platform found measurable improvement in typing proficiency attributable to its interactive, game-based design (Bariq & Puspasari, 2025) directly relevant to correspondence instruction. None of these, individually, offers a medium purpose-built for correspondence as a competency area in its own right.

Validity and Practicality as R&D Evaluation Criteria

In educational Research and Development, validity and practicality are the two criteria most commonly used to judge whether a product is ready for classroom use (Sugiyono, 2015). Validity is assessed through expert judgment on structured instruments covering visual design, technical quality, content accuracy, and instructional coherence (Nieveen, 1999; Wahono, 2006; Arsyad, 2014; Saputri et al., 2023). Practicality is assessed empirically through staged user trials, so a small one-to-one trial surfaces usability problems before a larger small-group trial, consistent with continuous formative evaluation (Sari & Susilo, 2019; Plomp, 2018). A web-based interactive medium for a different vocational subject similarly found that keeping practice and feedback within one platform supported clearer student engagement (Al Husaeni et al., 2022), consistent with the premise that learners build more coherent mental models when materials, practice, and feedback are connected within a single design (Mayer, 2003) the principle motivating KORESIA's structure and the same tradition of criteria-based assessment the lead researcher has applied elsewhere (Utari et al., 2025).

METHOD

Research Design

This study used a Research and Development (R&D) approach aimed at producing a validated, classroom-ready digital learning product (Sugiyono, 2015), following the ADDIE model Analysis, Design, Development, Implementation, and Evaluation selected for its systematic, traceable stages (Branch, 2009; Molenda, 2003; Gustafson & Branch, 2002). This article reports results through the end of the first year of a planned two-year study; the Implementation stage covered here consists of expert validation and staged user trials, while a larger field trial is planned for the second year (see Conclusion).

Development Procedure

In the Analysis stage, the research team reviewed the correspondence syllabus for Office Administration Education, observed classroom practice at the two partner schools, and examined the digital media already in use, confirming the fragmentation problem described in the Introduction, consistent with needs-analysis practice the lead researcher has applied elsewhere (Utari et al., 2022). The Design stage organized content by topic (letter typing, eight types of letter folding, and telephone handling), each built around the same four-part sequence of materials, video, guided practice, and evaluation, following the principle that objectives, content, and activity should be consistently aligned (Merrill, 2002; McKenney & Reeves, 2018). The Development stage built this into a functional web-based product integrating materials, video, interactive practice, and video-based evaluation through an embedded form. Table 1 summarizes activities completed at each ADDIE stage.

Table 1.
RESEARCH AND DEVELOPMENT ACTIVITIES COMPLETED BY ADDIE STAGE

ADDIE Stage	Key Activities	Status (as of Aug. 2026)
Analysis	Curriculum and needs review, classroom observation at partner schools, instrument drafting	Completed
Design	Instructional structuring by topic, storyboard and navigation flow, interface layout planning	Completed
Development	Content, video, and practice-task production; feature integration; expert validation and minor revision	Completed; final revision in progress
Implementation	One-to-one trial (n = 3/school) and small-group trial (n = 6–7/school) at SMKN 62 and SMKN 40 Jakarta	Completed
Evaluation	Comprehensive data analysis, first-year reporting, preparation of research outputs	In progress

Participants

Validation involved four experts external to the research team: two media experts (lecturers at Universitas Negeri Jakarta) and two content experts a correspondence course lecturer and a correspondence subject teacher at SMKN 40 Jakarta to anchor content validation in classroom practice. User trials involved students at SMKN 62 and SMKN 40 Jakarta: three students of mixed prior ability per school in the one-to-one trial, then six at SMKN 62 and seven at SMKN 40 in the small-group trial sample sizes consistent with staged, formative-evaluation logic rather than an intent to generalize statistically.

Instruments

Four instruments were used, adapted from established product-validation and R&D instrument-construction guidance (Nieveen, 1999; Wahono, 2006; Arsyad, 2014; BSNP, 2014; Saputri et al., 2023): a 16-item media validation sheet (Visual Appearance, Readability, Technical Quality, Navigation and Ease of Use); an 18-item content validation sheet (Content Feasibility, Presentation Feasibility, Practice and Evaluation, Language Component), both rated 1–5; a 10-item one-to-one practicality questionnaire with a structured interview protocol; and a 21-item small-group practicality questionnaire adding presentation feasibility and graphic quality as separate aspects.

Data Collection and Analysis

Quantitative data were collected through the validation sheets and practicality questionnaires; qualitative data through open-ended comment fields, structured interviews during the one-to-one trial, and documentation of trial sessions. Quantitative data were analyzed as a percentage of the maximum possible score, then classified using standard R&D eligibility criteria: 81–100% Highly Feasible/Highly Practical, 61–80% Feasible/Practical, 41–60% Moderately Feasible/Practical, 21–40% Less Feasible/Practical, and 0–20% Not Feasible/Practical (Sugiyono, 2015; Tegeh et al., 2014). One item on Media Validator 1's Navigation and Ease of Use sheet was left unrated; that aspect and total are calculated from the 15 items actually rated, a gap to be closed before the second-year trial. Qualitative data were analyzed thematically, consistent with formative-evaluation practice (Sari & Susilo, 2019).

RESULTS AND DISCUSSIONS

Product Overview

KORESIA is a web-based digital learning media accessible from desktop and mobile browsers, built through the ADDIE stages described in the Method. Figure 1(a) shows the interface for one topic module—letter folding—illustrating the four-part sequence common to every topic: materials, an instructional video, practice built around eight letter-folding techniques, and a video-based evaluation task. Figure 1(b) documents a small-group trial session at a partner school. This integrated structure is the direct response to the design gap identified in the Introduction: rather than distributing materials,

practice, and evaluation across separate platforms, KORESIA keeps them within one sequence per topic.

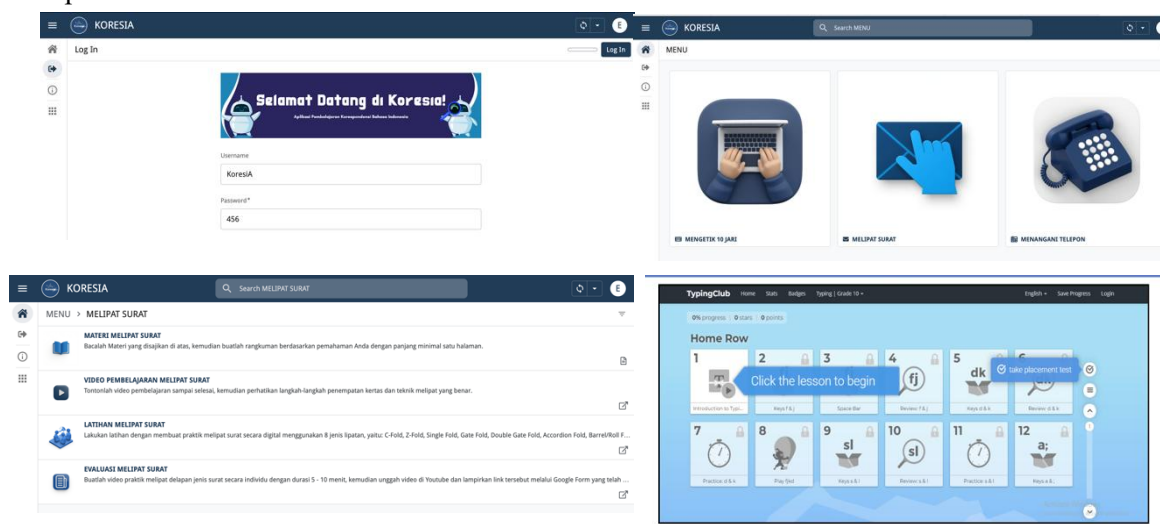


Figure 1. KORESIA INTERFACE FOR THE LETTER-FOLDING TOPIC MODULE
Expert Validation Results

Table 2.
PRESENTS THE RECAPITULATION OF MEDIA AND CONTENT VALIDATION
SCORES BY ASSESSED ASPECT.

Category	Assessed Aspect	Items	Validator 1	Validator 2
Media	Visual Appearance	4	16/20 (80.00%)	16/20 (80.00%)
	Readability	4	14/20 (70.00%)	15/20 (75.00%)
	Technical Quality	4	19/20 (95.00%)	15/20 (75.00%)
	Navigation & Ease of Use	4 (3 rated)*	12/15 (80.00%)*	15/20 (75.00%)
	Total (Mean = 78.71%)	16	61/75 = 81.33% (Highly Feasible)	61/80 = 76.25% (Feasible)
Content	Content Feasibility	5	25/25 (100.00%)	25/25 (100.00%)
	Presentation Feasibility	5	23/25 (92.00%)	25/25 (100.00%)
	Practice & Evaluation	4	20/20 (100.00%)	20/20 (100.00%)
	Language Component	4	19/20 (95.00%)	20/20 (100.00%)
	Total (Mean = 98.33%)	18	87/90 = 96.67% (Highly Feasible)	90/90 = 100.00% (Highly Feasible)

Media Validator 1 (81.33%, Highly Feasible; calculated from 15 of 16 items rated, see Method) and Media Validator 2 (76.25%, Feasible) placed KORESIA's media quality between Feasible and Highly Feasible, with the lowest scores on Readability (70–75%) and, for Validator 2, Technical Quality and Navigation (75% each). Both content validators scored KORESIA higher, at 96.67% and 100% (Highly Feasible), with no aspect below 92%. This range describes a product whose instructional substance was judged essentially complete, while its media execution left more specific room for revision.

This gap between content and media scores is informative rather than merely descriptive: KORESIA's strength lies in what it teaches rather than only in how it looks. Both content experts reported no major revisions and confirmed the material adequately represented what students are expected to master. Media Validator 1 recommended reducing on-screen text density following the “6-by-6” slide-design convention; both media validators raised concern about reliance on third-party YouTube links,

recommending self-produced video to avoid copyright exposure and inconsistent font sizing. This pattern strong content validity paired with more specific feedback on media execution echoes findings from other ADDIE-based vocational media (Haolader, 2023), confirming that the instructional structure this study set out to unify was judged sound.

Practicality Testing Results

Table 3 summarizes the results of the one-to-one and small-group trials at both partner schools.

Table 3.
RECAPITULATION OF PRACTICALITY TEST RESULTS

Trial Stage	Partner School	n	Instrument	Mean Score	Category
One-to-One	SMKN 62 Jakarta	3	10 items	88.00%	Highly Practical
One-to-One	SMKN 40 Jakarta	3	10 items	93.33%	Highly Practical
Small-Group	SMKN 62 Jakarta	6	21 items	94.44%	Highly Practical
Small-Group	SMKN 40 Jakarta	7	21 items	93.47%	Highly Practical
Overall Mean				92.31%	Highly Practical

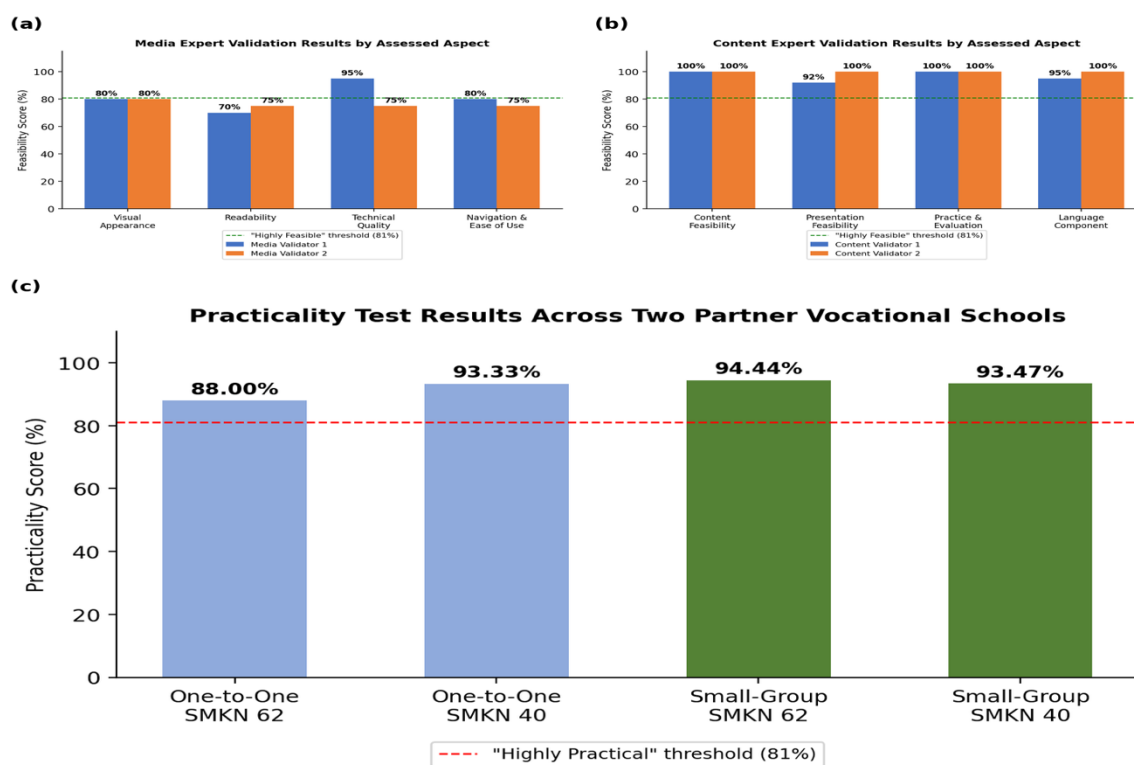


Figure 2. (a) MEDIA EXPERT VALIDATION RESULTS BY ASSESSED ASPECT; (b) CONTENT EXPERT VALIDATION RESULTS BY ASSESSED ASPECT; (c) PRACTICALITY TEST RESULTS ACROSS TWO PARTNER VOCATIONAL SCHOOLS. SOURCE: ANALYZED BY THE RESEARCHERS FROM THE YEAR-1 PROGRESS REPORT OF THE KORESIA RESEARCH PROJECT (2026).

All four trial groups scored above the 81% threshold for the Highly Practical category, with an overall mean of 92.31% (Sugiyono, 2015). Students described the interface as attractive and easy to follow; the most frequently repeated suggestion, echoing the media experts' concern above, was to replace third party YouTube video links with self-produced instructional video, followed by requests for clearer telephone-handling guidance and larger icons.

The improvement from the one-to-one to the small-group trial at SMKN 62 (88.00% to 94.44%) is worth noting: this is consistent with though not proof of revisions made after one-to-one feedback improving the product, in line with continuous formative evaluation (Sari & Susilo, 2019; Plomp, 2018). At SMKN 40, scores were already high at the one-to-one stage (93.33%) and remained stable (93.47%), suggesting this group encountered fewer issues rather than that revision had no effect.

Read together with the validation results, the practicality findings support the claim that KORESIA functions as intended for its users, not only as judged sound by experts. That both point the same direction is consistent with prior findings that an ADDIE process combining expert validation with progressively broader user testing tends to produce consistent feasibility and practicality outcomes (Haolader, 2023; Alyusfitri et al., 2024), reflecting the same design principle motivating KORESIA: keeping materials, guided practice, and feedback within one coherent sequence reduces the extraneous cognitive load of navigating between platforms (Mayer, 2003) precisely the fragmentation this study identified as a gap in existing correspondence media (Aji & Puspasari, 2021).

Taken together, these results indicate that KORESIA, as developed through its first year, is both valid and practical for classroom use, while also making clear where second-year revision should concentrate: self-produced instructional video, refined typography and text density, and additional scaffolding for the telephone-handling exercise.

CONCLUSION

This study developed and validated KORESIA, an integrated digital correspondence learning media for Office Administration vocational education, through the first year of a two-year Research and Development study using the ADDIE model. Expert validation placed the product's media quality between Feasible and Highly Feasible (76.25%–81.33%) and its content quality at Highly Feasible (96.67%–100%), while staged practicality testing produced a Highly Practical result across both trial stages (88.00%–94.44%, overall mean 92.31%). Beyond these figures, the more substantive contribution is a working model of an integrated correspondence learning medium: one platform, organized by topic, keeping materials, instructional video, structured practice, and evaluation in a single sequence rather than distributed across separate tools a pattern that could plausibly be adapted to other procedurally demanding vocational competencies.

This study is limited by its position at the end of a first year of R&D work rather than the full study. Sample sizes for the one-to-one ($n = 3$ per school) and small-group ($n = 6-7$ per school) trials were intentionally small, appropriate for staged formative testing but not for generalizing practicality findings; one validation item on Media Validator 1's sheet remains to be re-confirmed; and most importantly this study establishes that KORESIA is valid and well received, not that it improves learning outcomes, since no learning-outcome measure was collected. Claims about effectiveness on student achievement should await the second-year field trial, which is planned to extend testing to a larger, more diverse group of schools, complete the pending validation item, evaluate learning-outcome effects directly, and pursue Simple Patent (Hak Cipta) registration for KORESIA.

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