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Developing Pastry Vocational Learning Videos for Students with Mild Intellectual Disabilities

Tri Murhanjati Sholihah [1]*, Luthfi Riyadh Rahman [2], Diaz Cico Mukti Aji [3], Nurul Azizah[4], Intan Wiratnasari[5], Rifai Akris Budiarto[6], Susilo Dwi Utomo[7]

[1,2,3,4,5,6,7]Universitas Negeri Yogyakarta, Indonesia
*trimurhanjatis@uny.ac.id

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***Correspondence Address:**
trimurhanjatis@uny.ac.id

Abstract:
This study developed and evaluated the feasibility of a pastry vocational-skills learning video for students with mild intellectual disabilities. The research employed a Research and Development approach organized through the ADDIE stages: analysis, design, development, implementation, and evaluation. The main product was a 5-minute-54-second chocochips-cookie learning video designed using simple language, strong visual cues, repeated explanations, clear audio, subtitles, and practical demonstrations. Product validation involved one material expert and one media expert, while limited evaluation involved 10 culinary teachers and student responses were collected from 20 learners. The material expert produced a mean score of 3.7 and the media expert 3.8, both exceeding the >3.4 criterion for the very feasible category. All 30 teacher-questionnaire items were valid based on an r-table value of 0.532, with high internal consistency (Cronbach's alpha = 0.982). Student-response scores ranged from 81 to 104, with a mean of 91.00 and a standard deviation of 6.61, with the largest proportion categorized as feasible. Classroom implementation further showed that students were attentive to the video and were able to recall the sequence of the demonstrated procedure with teacher prompting during pastry practice. These findings indicate that the developed learning video is feasible and positively received as a visually explicit, repetitive, and practice-oriented vocational learning medium for students with mild intellectual disabilities. However, this study did not examine its effectiveness in improving students' learning outcomes or vocational skills; therefore, further research using appropriate effectiveness measures is required.

Introduction (مقدمة)

Vocational education is directed toward the development of competencies that can be applied in specific fields of work and in practical life. For learners who require specialized educational support, vocational education has an additional function because the skills acquired can contribute to greater independence, participation, and preparation for adult life. This orientation is consistent with Billett's (2011) view of vocational education as the development of

occupational competence and with the life-skills perspective that connects specific vocational abilities with functioning in everyday and work-related settings (Anwar, 2004). For students with special educational needs, vocational learning becomes particularly meaningful when the selected skills are concrete, functional, repeatedly practiced, and related to environments that learners may encounter after completing school (Ishartiwi, 2017).

This study focuses on students with mild intellectual disabilities. Intellectual disability is characterized by limitations in intellectual and adaptive functioning that emerge during the developmental period, with the level of support more appropriately understood through adaptive functioning than through IQ scores alone (Smith et al., 2002; American Psychiatric Association, 2013). Nevertheless, students within the mild range retain developmental potential in social, motor, academic, and vocational domains when instruction is appropriately structured and adapted to their characteristics (Yusuf et al., 2003). Evidence cited in the research report also indicates that individuals with intellectual disabilities can acquire employment-related qualifications when vocational training is specifically designed around their learning needs (Nishio, 2005). Thus, the educational challenge is not whether these students can participate in vocational learning, but how instruction can be organized so that procedural and practical skills become sufficiently accessible for them to learn and perform.

This requirement has important implications for instructional design. Educational services for students with intellectual disabilities cannot be uniform because learners differ in the intensity of support required, instructional duration, personnel assistance, learning arrangements, and environmental conditions (Smith & Luckasson, 1992). Vocational learning therefore needs to adjust content, complexity, practice time, and instructional support to learner characteristics (Ishartiwi, 2002). Rejokirono (2017) similarly emphasizes continuity between vocational preparation at school, transition, and participation in working life. From an adaptive-work-skills perspective, vocational readiness also extends beyond completion of a technical task to include work habits, task performance, social behavior, safety, and functional independence (Bernie et al., 2002). Consequently, the quality of vocational instruction depends not only on what skill is taught but also on whether the instructional format enables learners to understand, remember, and reproduce the sequence of actions involved.

This issue becomes especially important in practical activities that consist of sequential physical procedures. The theoretical framework of the study uses associationistic learning to explain that appropriate responses can be strengthened through practice, repetition, and consistent connections between stimuli and actions (Hergenhahn & Olson, 2008). Vocational learning is also strongly psychomotor, although cognitive understanding and affective engagement remain involved (Winkel & Hastuti, 2007). Differences in learning modalities further indicate the importance of combining sensory information, demonstration, and direct practice so that students can understand and reproduce procedural tasks (Dryden & Vos, 1999). For students with mild intellectual disabilities, step-by-step visual instructions, repeated demonstrations, simplified verbal explanations, and teacher guidance therefore function as essential instructional supports rather than supplementary features.

These instructional demands are evident in culinary vocational learning. Pastry activities require students to recognize ingredients and equipment, understand measurements, follow preparation stages, mix and shape ingredients, use baking equipment safely, and complete finishing procedures in the correct sequence. The preliminary findings at SLB Negeri 2 Yogyakarta showed that teachers frequently needed to repeat spoken instructions because students had difficulty retaining procedural information. Students demonstrated interest when online videos were shown, but they still experienced difficulty recalling the sequence of activities when asked to explain or reproduce the procedure. This situation indicates that student engagement with audiovisual material alone does not guarantee that a video is instructionally appropriate for learners with mild intellectual disabilities. The central issue concerns how procedural information is presented, sequenced, repeated, and supported visually and verbally.

Learning video offers potential for addressing this problem because audiovisual media can present actions, demonstrations, visual details, and temporal sequences more consistently than oral explanation alone. Arsyad (2009) describes learning media as resources that mediate instructional messages, while Rusman et al. (2012) define learning video as audiovisual information systematically organized to support learning objectives. Video can also manipulate time and space, focus students' attention on essential actions, and allow important segments to be presented repeatedly (Pujiriyanto, 2012). Riyana (2007) further emphasizes the importance of controllable visual presentation, appropriate pacing, and audiovisual elements that maintain learners' attention. These characteristics make video potentially suitable for procedural vocational instruction.

However, the availability of video itself does not resolve the instructional problem. General-purpose online videos are commonly designed for broad audiences and may contain language, presentation speed, visual complexity, duration, or procedural organization that does not correspond to the learning characteristics of students with mild intellectual disabilities. For these learners, the instructional video needs to reduce unnecessary cognitive demands and make each stage of the procedure sufficiently explicit. The media design framework adopted in the study therefore emphasizes eight principles: attractive visual support, simple language, limited duration, clear audio, repetition and interaction, simple concept visualization, relevant content, and accessibility. These principles are supported by perspectives on visual support, cognitive processing, multimedia learning, instructional audio, interactive video, differentiated instruction, and accessible digital pedagogy (McInerney & Davis, 2020; Willingham, 2009; Mayer, 2014; Nicol, 2017; van Hooijdonk & Smit, 2017; Tufte, 1997; Westwood, 2018; Beetham & Sharpe, 2013).

Although previous literature provides strong foundations for vocational learning, special-needs education, and instructional media, a more specific research gap remains in the context of this study. Existing perspectives explain the importance of functional vocational skills for students with special educational needs (Ishartiwi, 2017; Rejokirono, 2017), the need for individualized and adaptive instructional support (Smith & Luckasson, 1992; Ishartiwi, 2002), and the advantages of audiovisual media for presenting demonstrations and procedural sequences (Rusman et al., 2012; Pujiriyanto, 2012; Riyana, 2007). Multimedia and accessibility principles also provide guidance for reducing complexity and strengthening visual and auditory support (Mayer, 2014; Westwood, 2018; Beetham & Sharpe, 2013). However, these perspectives do not by themselves establish whether a pastry vocational-learning video specifically designed around the learning characteristics of students with mild intellectual disabilities is feasible for use in their instructional context.

More specifically, the instructional need identified in this study lies between the availability of general audiovisual resources and the requirement for a specialized vocational-learning medium. The preliminary findings showed that existing online videos attracted students' attention but did not sufficiently support their recall of procedural sequences. This indicates a gap between media availability and media suitability. A vocational-learning video for these students therefore needs to integrate procedural demonstration with simplified language, explicit visual cues, repetition, subtitles, clear audio, appropriate pacing, and a short duration within one deliberately designed learning resource. Such a design is intended not merely to make the material visually attractive but to make the sequence of pastry practice more accessible and manageable for learners who require stronger instructional structure.

Instructional alignment is also important because the video is intended to function within teacher-guided vocational practice rather than as an independent digital resource. Syaifurahman and Ujati (2013) emphasize the interdependence of instructional objectives, strategies, and assessment, while Yaumi (2012) positions instructional principles as deliberate decisions directed toward learning outcomes. Haerana (2016) also stresses the importance of interactive, motivating, and participatory learning environments. Accordingly, the video developed in this study is positioned as part of a structured pastry-learning process in which teachers can use the media to

introduce procedures, reinforce explanations, guide practice, and support students during the performance of vocational tasks.

Based on this research gap, the contribution of the present study lies in the development of a pastry vocational-learning video specifically adapted to the instructional characteristics of students with mild intellectual disabilities. The product translates the identified design principles into a short chocochips-cookie learning video using simple language, strong visual cues, repeated explanations, clear audio, subtitles, and practical demonstrations. Rather than examining learning effectiveness, this study focuses on whether the resulting product is sufficiently appropriate and usable within the context for which it was designed.

Accordingly, this study aimed to (1) describe the process of developing a vocational pastry learning video for students with mild intellectual disabilities and (2) examine the feasibility of the resulting product through expert validation, teacher evaluation, and student responses. The study concentrates on the chocochips-cookie learning video reported in the main research results, while the appendices also document a muffin-video script developed within the same pastry-learning context.

Method (منهج)

This study used a Research and Development (R&D) approach. The source report organizes product development through the ADDIE instructional-system-development sequence: Analysis, Design, Development, Implementation, and Evaluation. R&D was selected because the study was intended to produce an instructional medium, obtain expert and user feedback, revise the product, and assess its feasibility for use in vocational learning (Sugiyono, 2016).

The analysis stage covered three principal activities: competency or curriculum analysis, analysis of the characteristics of intended users, and instructional analysis. Competency analysis identified the vocational culinary competencies that the video needed to support. Learner analysis focused on students with mild intellectual disabilities, particularly their varied comprehension, tendency to respond better to visual stimuli and direct practice, and differences in motor ability. Instructional analysis translated broad competencies into more specific and sequential learning indicators. The report indicates that instruction took place in a special-class or culinary-laboratory context with teacher guidance and equipment adapted to student motor capabilities.

During the design stage, the researchers prepared the media outline, presentation sequence, visual system, and evaluation tools. Content was segmented into a structured learning sequence consisting of opening and apperception, introduction of tools and ingredients, processing, oven use, presentation of the finished product, repetition of key concepts, and interactive questions. The design also incorporated simple language, clear and friendly audio, bright colors, readable text, repetition, and short video duration. The report's design grid explicitly connects these choices to visual support, multimedia learning, differentiation, and accessible digital-learning principles (McInerney & Davis, 2020; Mayer, 2014; Westwood, 2018; Beetham & Sharpe, 2013).

The development stage included pre-production, production, editing, and expert review. The main video reported in the study was titled Simple Cooking and focused on making chocochips cookies. The source specifies a final duration of 5 minutes 54 seconds and MP4 HD format. The video used presenter demonstrations, close-up shots of tools, ingredients and processing steps, on-screen text, narration, visual illustrations, and concluding review questions. After the first version was produced, it was reviewed by a material expert and a media expert. The material validator was an SLB teacher and the media validator was a university lecturer in educational technology.

The implementation stage distributed the validated product to teachers and students and used the video before culinary practice. During presentation, the teacher or special educator remained involved so that each step could be clarified and students could be prompted to recall the sequence during practice. This teacher-guided use is consistent with the report's emphasis on

individualized support and with the need to align instruction, learning strategy, and assessment (Syaifurahman & Ujati, 2013).

Data were collected using observation, documentation, and closed questionnaires. Observation was used to obtain field information without imposing a rigid observation schedule, while documentation included written instructional materials and video sources. The report's methodological framework refers to Sugiyono (2016) for observation and questionnaires and to Moleong (2002) for documentary data. The closed questionnaire used four response alternatives ranging from the lowest to the highest feasibility judgment.

The study used several groups of data sources. Expert validation involved one material expert and one media expert. A limited teacher evaluation was administered offline to 10 culinary teachers. Student responses were obtained from 20 learners, with questionnaire completion assisted by the teacher. Data analysis was descriptive. The report describes descriptive statistics and percentage-based categorization as the principal techniques (Sugiyono, 2016; Arikunto, 2013). Teacher-instrument validity was examined by comparing item correlations with an r-table value of 0.532, and internal consistency was reported using Cronbach's alpha. Student-response analysis reported minimum, maximum, mean, standard deviation, and category frequencies.

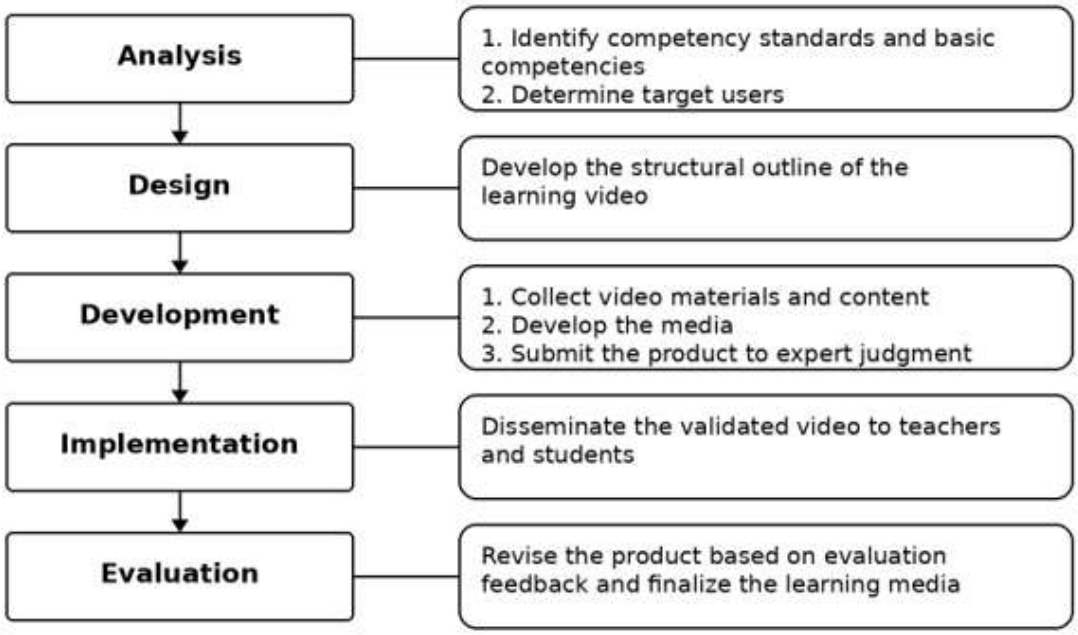

Figure 1. ADDIE development flow translated from the research model in the source report

Result (نتائج)

Analysis: Learning Needs and Learner Characteristics

The analysis stage established that the video needed to support both procedural comprehension and practical action. Students with mild intellectual disabilities showed heterogeneous levels of understanding, and the report notes limitations in abstract reasoning and complex problem solving. At the same time, they tended to respond more positively to visual stimuli and direct practice. Motor abilities also varied, requiring simple equipment and a learning environment that allowed teacher assistance. These characteristics were used as direct design constraints rather than as general background information.

Field interviews with teachers and special-education practitioners emphasized three recurring needs: a visual approach, hands-on practice, and simple repetitive instructions. Existing pastry material was therefore reviewed to identify content that could be simplified into observable steps. The researchers also identified that the classroom or culinary laboratory needed to be inclusive and supportive, with safe equipment and a teacher available to ensure that each video step was understood and could be followed correctly.

Table 1. Summary of Learner and Instructional Needs Identified in the Analysis Stage

Need Area	Finding in the Source Report	Design Implication
Comprehension	Learners show varied comprehension and difficulty with abstract or complex concepts.	Use simple, sequential explanations and concrete demonstrations.
Visual learning	Students tend to respond better to visual stimuli than to verbal explanation alone.	Use clear images, close-ups, animation, and on-screen text.
Practice	Students tend to learn better through direct practical experience.	Connect the video directly with culinary practice.
Motor ability	Motor performance varies among students.	Use simple tools and teacher-guided practice.
Instructional recall	General online videos attract attention, but students may still struggle to recall procedural sequences.	Repeat key steps and use short, structured segments.
Learning environment	Instruction occurs in a special class or culinary laboratory with educator guidance.	Design the video as a guided learning aid rather than a stand-alone resource.

Design: Accessibility Principles and Video Structure

The video design translated the needs analysis into explicit media requirements. Visuals were required to be attractive and high-contrast, language had to be simple, duration had to remain short enough to reduce loss of attention, audio had to be clear and friendly, and key concepts had to be repeated. The report also required simple concept visualization, relevant content, and easy access. These principles were not added after production; they were part of the design brief before the video was developed.

Table 2. Media-Design Principles Used in the Research Report

Principle	Operationalization in the Report	Source Cited in the Report
Visual	Use attractive images or animation with bright colors and clear contrast.	McInerney & Davis (2020)
Simplicity	Use understandable language, avoid difficult vocabulary, present information gradually, and repeat important concepts.	Willingham (2009)
Duration	Keep the video concise so that students do not lose interest.	Mayer (2014)
Audio	Use clear, friendly sound and avoid distracting background noise.	Nicol (2017)
Repetition and interaction	Repeat concepts and visual elements; include questions or interactive tasks.	van Hooijdonk & Smit (2017)

Principle	Operationalization in the Report	Source Cited in the Report
Concept visualization	Use simple diagrams, graphics, or conceptual visualizations.	Tufte (1997)
Relevant content	Select content relevant to student needs and learning level.	Westwood (2018)
Accessibility	Provide consistent repetition and easy access through a user-friendly format.	Beetham & Sharpe (2013)

Development of the Chocochips-Cookie Learning Video

The main product reported in the results was a chocochips-cookie learning video. The final product was 5 minutes 54 seconds long and saved in MP4 HD format. Its structure moved from an opening and apperception to the introduction of tools and ingredients, ingredient processing, shaping, baking, presentation, and concept review. The video used a presenter, close-up shots, ingredient labels, subtitles, visual illustrations, and repeated verbal cues. Figure 2 reproduces representative frames from the developed video as documented in the research report.

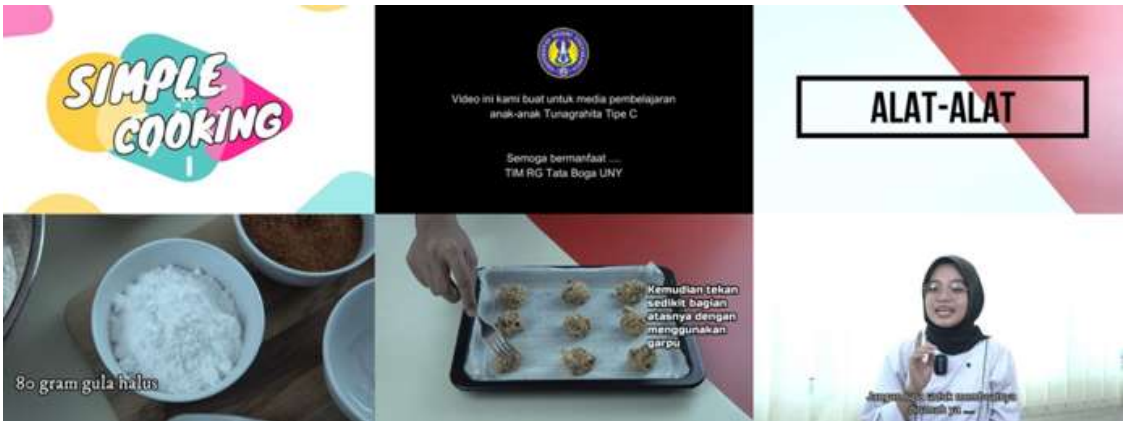

Figure 2. Representative frames from the developed chocochips-cookie vocational learning video

Table 3. Main Content Sequence of the Developed Video

Sequence	Main Content
Opening and apperception	Welcome, recognition of the cookie product, and introduction to the learning activity.
Tools and ingredients	Presentation of measuring tools, mixer, bowl, tray, oven, and required ingredients.
Dough processing	Mixing margarine, butter, sugars, salt, eggs, vanilla, flour, baking powder, chocolate chips, and peanuts as demonstrated in the source script.
Shaping	Placing dough on a lined tray and shaping it with a fork.
Baking	Preheating and baking with the temperature and duration demonstrated in the learning script.
Finishing and serving	Cooling the baked cookies and explaining appropriate storage/serving.
Review and interaction	Repeating important concepts, asking questions, and closing the lesson.

Expert Validation and Revision

The developed video was validated by one material expert and one media expert. For material validation, the report assessed ten components covering visual attraction, color, simple visualization, understandable language, staged information, repetition of important concepts, relevance of content, suitability for the learning stage of students with intellectual disabilities, repeated visual concepts, and interactivity. The total score was 37 with a mean of 3.7. In the detailed results section, the report states that this value was above 3.4 and therefore met the very-feasible criterion.

Table 4. Material-Expert Validation of the Learning Video

No.	Material Aspect	Score
1	Images/animation can attract student attention	3
2	Bright colors can increase student attention	3
3	Simple visualization is used	4
4	Language is easy to understand	4
5	Information is presented gradually	4
6	Important concepts are emphasized again	3
7	Content is relevant to student needs and interests	4
8	Content suits the learning stage of students with intellectual disabilities	4
9	Concepts and visual elements can be repeated to strengthen understanding	4
10	Material is delivered interactively	3
	Total score	37
	Mean score	3.7
	Criterion	Very feasible

Media validation assessed sound clarity, background sound, music selection, shot composition, color, duration, font choice, font size, ease of access, and file-format usability. The total score was 38 and the mean score was 3.8, again above the report's >3.4 threshold. The strongest scores were obtained for audio, image composition, color, duration, accessibility, and file format, while the font and font-size items received scores of 3.

Table 5. Media-Expert Validation of the Learning Video

No.	Media Aspect	Score
1	Voice is clear and gentle	4
2	Background sound is not disturbing, noisy, or excessively loud	4
3	Music selection is appropriate for students with intellectual disabilities	4
4	Shot composition is appropriate	4
5	Color use is appropriate	4
6	Video duration is not too long (approximately 5-6 minutes)	4
7	The displayed font is appropriate (Arial)	3
8	The displayed font size is appropriate	3
9	The video can be accessed easily	4
10	The video uses an easy-to-use format	4
	Total score	38
	Mean score	3.8
	Criterion	Very feasible

The validators' comments directly changed the product. The material validator requested explanatory subtitles so that students could reinforce listening through reading. The media validator recommended enlarging the displayed font and subtitles and replacing a static chocochips image with a more engaging animation. Another validator note in the appendices asked that the voice-over level be balanced with the presenter's voice and clarified that the intended learners should be described as students with mild intellectual disabilities rather than

using the older 'Type C' label. Figure 3 reproduces the before-and-after visual revisions documented in the report.

Figure 3. Examples of video revisions following expert validation

Implementation in Culinary Practice

After expert validation, the learning video was shown in class before culinary practice. The report states that students watched the video attentively. During practice, the teacher provided prompts to help them recall the sequence shown in the video, after which students were able to practice the chocochips-cookie procedure in accordance with the demonstrated steps. The implementation therefore combined audiovisual modeling with educator prompting and hands-on execution rather than treating viewing as the final learning activity.

Figure 4. Students practicing the chocochips-cookie procedure after viewing the learning video

Teacher-Instrument Validity and Reliability

A limited product evaluation was conducted using a questionnaire distributed offline to 10 culinary teachers. The source report processed the data using Microsoft Excel and SPSS version 27. The report compared item correlations with an r-table value of 0.532 and states that all 30 questionnaire items were valid because every reported r-count exceeded the comparison value. Internal consistency was also reported as very high, with Cronbach's alpha = 0.982.

Table 6. Reported Validity Results for the 30-Item Teacher Questionnaire

Item	r-count	r-table	Status
1	.816	0.532	Valid
2	.828	0.532	Valid
3	.810	0.532	Valid
4	.814	0.532	Valid
5	.812	0.532	Valid
6	.776	0.532	Valid
7	.810	0.532	Valid
8	.738	0.532	Valid
9	.687	0.532	Valid
10	.773	0.532	Valid
11	.799	0.532	Valid
12	.783	0.532	Valid
13	.740	0.532	Valid
14	.817	0.532	Valid
15	.866	0.532	Valid
16	.866	0.532	Valid
17	.855	0.532	Valid
18	.740	0.532	Valid
19	.840	0.532	Valid
20	.784	0.532	Valid
21	.714	0.532	Valid
22	.790	0.532	Valid

Item	r-count	r-table	Status
23	.866	0.532	Valid
24	.855	0.532	Valid
25	.823	0.532	Valid
26	.710	0.532	Valid
27	.756	0.532	Valid
28	.831	0.532	Valid
29	.845	0.532	Valid
30	.791	0.532	Valid

Table 7. Reliability of the Teacher Questionnaire

Measure	Value	Interpretation
Cronbach's alpha	0.982	Reliable

Student Responses

Student responses were collected from 20 learners using 30 questionnaire statements with scores ranging from 1 to 4. Completion was assisted by the teacher. The source reports a minimum observed score of 81.00, a maximum of 104.00, a mean of 91.00, and a standard deviation of 6.61. The category table in the report places the largest reported percentage in the feasible category, followed by less-feasible and very-feasible categories. The values in Table 8 are retained exactly as presented in the source report without recalculation.

Table 8. Student-Response Categories as Reported in the Source

Score Interval	Category	f	Reported Percentage
$X \geq 102.00$	Very feasible	2	6.7%
$84.00 \leq X < 102.00$	Feasible	13	76.7%
$66.00 \leq X < 84.00$	Less feasible	5	16.7%
$48.00 < X < 66.00$	Not feasible	0	0.00%
Total		20	100.00%

In addition to questionnaire scores, the implementation notes show a behavioral response to the video: students were described as enthusiastic or attentive while viewing and were able to continue the practical task with teacher prompts that reactivated the sequence previously shown. This observation is important because the product was designed to support vocational performance, not only favorable perceptions of the media.

Discussion (مناقشة)

The development results indicate that the feasibility of the product came from alignment between learner characteristics and media design. The learning problem identified by the report involved difficulty understanding and recalling multistep spoken instructions. A conventional explanation can disappear as soon as it is delivered, whereas video can stabilize a procedure into visible, replayable segments. This is consistent with the general role of learning media described by Arsyad (2009) and with the audiovisual characteristics of instructional video described by Rusman et al. (2012). The ability to slow, repeat, and focus attention on visual information also corresponds to the temporal and spatial affordances of video discussed by Pujiriyanto (2012).

The short duration and simple structure are particularly relevant for the intended learners. The report did not attempt to present all pastry knowledge in one video. Instead, it narrowed the main evaluated product to a concrete task and arranged the task into a sequence that could be watched immediately before practice. This design follows the report's own multimedia-learning criterion that duration should be controlled so learners do not lose interest (Mayer, 2014). It also reflects the need to reduce unnecessary complexity through understandable language and staged

information (Willingham, 2009). The resulting 5-minute-54-second product is therefore best interpreted as a focused performance scaffold rather than a complete pastry curriculum.

Visual explicitness was another central mechanism. Students with mild intellectual disabilities in the source analysis were described as responding better to visual stimuli and direct practice. The product therefore used ingredient close-ups, demonstrations, color contrast, presenter modeling, subtitles, and animation. The media-design grid cites visual-support literature to justify making critical information observable (McInerney & Davis, 2020) and visual-explanation principles to support simplified representation (Tufte, 1997). Although McInerney and Davis address visual supports in another special-needs context, the report uses the work specifically as a design reference for the clarity and visibility of instructional cues, not as evidence that the learner populations are identical.

The validator revisions demonstrate the value of formative evaluation. The material expert's request for subtitles created a second pathway for processing the same explanation, while the media expert's recommendation to enlarge fonts improved readability during fast visual transitions. Replacing the chocochips image with an animation increased visual salience. Audio revision was also necessary because the source validator observed an imbalance between voice-over volume and the presenter's speech. These revisions align with the report's cited principles for effective learning audio (Nicol, 2017), repeated interactive explanation (van Hooijdonk & Smit, 2017), and accessible digital delivery (Beetham & Sharpe, 2013).

The validation data support feasibility within the context of the study. A material mean of 3.7 and a media mean of 3.8 both exceeded the report's >3.4 threshold. The detailed item pattern is informative: the material validator gave the highest score to simple visualization, understandable language, staged information, relevance, learning-stage suitability, and repeatable visual concepts, while slightly lower scores were assigned to visual attraction, bright color, re-emphasis of concepts, and interactivity. The media validator gave the highest score to most audiovisual and access characteristics but scored font choice and font size at 3. This pattern is consistent with the qualitative revisions, showing that the numerical ratings and expert comments converged on readability and reinforcement rather than on major conceptual deficiencies.

The teacher-evaluation instrument also showed strong internal consistency in the report. All 30 items were stated to exceed an r-table value of 0.532, and Cronbach's alpha was 0.982. Within the report's descriptive framework, these results support the internal consistency of the instrument used to gather teacher judgments. However, the study does not report an experimental comparison between learning with and without the video. The main quantitative evidence therefore concerns feasibility, instrument quality, and response rather than causal learning-effectiveness testing. This distinction is important because the report itself recommends future effectiveness testing.

Student-response data indicate generally positive acceptance, with the largest reported category classified as feasible. The source also reports a mean response score of 91.00 and qualitative observations of attentive viewing. These results are consistent with a differentiated-instruction perspective in which content and presentation are adjusted to learner needs (Westwood, 2018). The role of teacher assistance must nevertheless remain visible. During practice, students were not simply left to reproduce the video independently; the teacher gave prompts that helped them recall the sequence. This finding supports the individualized-service orientation discussed by Smith and Luckasson (1992) and the report's broader position that special-needs vocational instruction requires adaptation of time, materials, environment, and educator support.

The practical component is also theoretically coherent with the source's associationistic and psychomotor framing. Watching the demonstration provides a stimulus and action model; performing the recipe provides the repeated motor response through which the sequence can become more stable (Hergenhahn & Olson, 2008). Because the intended outcome is a vocational

skill, understanding must ultimately be expressed through organized action, not only verbal recall. The report's discussion of psychomotor learning and sensory modalities therefore helps explain why video and practice are complementary rather than competing instructional modes (Winkel & Hastuti, 2007; Dryden & Vos, 1999).

From a vocational-education perspective, the product also has relevance beyond one recipe. Billett (2011) emphasizes the development of occupational competence, while the report's special-education framework links vocational skills to independence and participation in work and community life (Ishartiwi, 2017; Rejokirono, 2017). Nishio (2005), as cited in the report, provides an example of people with intellectual disabilities acquiring qualifications for employment-related activity through specialized training. The present video does not demonstrate employment outcomes, but it contributes to the earlier instructional stage by making a practical culinary procedure more explicit and repeatable.

The report also situates successful vocational learning within an instructional-management system. Objectives, teaching strategies, and evaluation should be aligned (Syaifurahman & Ujati, 2013), and learning should remain interactive, motivating, and participatory (Haerana, 2016). Yaumi (2012) similarly frames learning principles as deliberate tools for reaching instructional goals. At the organizational level, the report cites Yukl (1994) in arguing that leadership and collective commitment can influence program implementation. This matters because the video depends on school support, teacher guidance, appropriate culinary facilities, and continuity between classroom learning and practical skill development.

Several limitations should therefore be retained when interpreting the findings. First, the research report emphasizes descriptive feasibility and response rather than a controlled test of learning effectiveness. Second, teacher guidance remained part of the implementation, so the product should not be interpreted as fully independent self-instruction. Third, the main quantitative student data concern media responses, and the report does not provide pretest-posttest achievement statistics for the pastry skill. Fourth, the product is centered on a specific vocational culinary context. These boundaries are consistent with the source report's own recommendation that future work test effectiveness and adapt the video-development approach to other lessons.

Conclusion (خاتمة)

This study successfully developed a vocational pastry learning video for students with mild intellectual disabilities through the ADDIE stages of analysis, design, development, implementation, and evaluation. The main product was a 5-minute-54-second chocochips-cookie learning video designed with clear visuals, simple language, repeated explanations, readable text, subtitles, accessible audio, and direct practical demonstrations. Expert validation produced mean scores of 3.7 for material and 3.8 for media, both meeting the very-feasible criterion of >3.4. Teacher evaluation also showed acceptable instrument validity and high reliability, while student responses indicated that the video was generally feasible for use in the learning context.

Based on these findings, the developed video can be concluded to be a feasible teacher-guided medium for vocational pastry instruction for students with mild intellectual disabilities. The present study did not directly test its effectiveness in improving learning outcomes or vocational-skill performance. Therefore, future research should evaluate learning effectiveness using appropriate outcome measures and examine the adaptation of the video design to other vocational skills and learning contexts.

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