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Development of Google Forms-Based Assessment as Learning with Autocrat Add-On to Assess Presentation Skills

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Abstract
This study aims to develop an assessment as learning (AaL) instrument based on Google Forms with the Autocrat add-on to assess students' presentation skills, particularly in chemistry education. The instrument is designed to facilitate efficient self-assessment and peer assessment through the integration of Google Forms and Autocrat, enabling the automatic generation of assessment reports. The research employs the research and development (R&D) method using the ADDIE model, which includes the stages of analysis, design, and development. The instrument was validated by assessment, language, and media experts, and its effectiveness was tested through teacher and student responses. The validation results indicate that the instrument has a very high level of validity, with a content validity ratio (CVR) of 1.00 for all aspects of the presentation rubric. The linguistic aspect of the rubric scored 93%, while the media aspect achieved 95%, both categorized as excellent. Teacher and student responses to the instrument were also highly positive, with overall scores of 83% and 85%, respectively. The instrument is considered beneficial, engaging, and easy to use, making it an effective tool for enhancing presentation skills and supporting the implementation of assessment as learning in chemistry education.

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INTRODUCTION

Presentation is one of the essential competencies that students must possess to face the challenges of 21st-century education (Ali et al., 2024; Hardianto et al., 2024). Presentations are crucial as they are part of the 4C skills in the 21st century: communication, collaboration, creativity, and problem-solving. These skills play a significant role in conveying ideas and thoughts clearly, logically, and persuasively. A research by Candra et al., (2025) concluded that presentation skills are vital in entrepreneurship. Additionally, research by Afandi & Wijayanti (2024) showed that good presentation skills help students communicate more confidently and effectively in front of groups. Therefore, mastering presentation skills is not only important for academic success but also supports students' development in facing workplace challenges and delivering information effectively.

Presentation skills are particularly important in chemistry education, especially when viewed from the learning objectives that require students to communicate investigation results orally and in writing clearly and structured. These objectives align with the development of presentation skills. 21st-century learning models, such as Discovery Learning (DL), Problem-Based Learning (PBL), and Project-Based Learning (PjBL), commonly used in chemistry education, often involve presentation activities as part of their implementation. Thus,

presentation skills are not only relevant to the current era but also an essential component of chemistry education.

The merdeka curriculum emphasizes the importance of student-centered learning, including the implementation of Assessment as Learning (AaL), such as self-assessment and peer assessment, as an effort to develop students' reflective and collaborative abilities rather than focusing solely on Assessment of Learning (AoL) (Nurlitasari et al., 2023). Self-assessment is an assessment strategy where students evaluate themselves based on standards and criteria set by educators (Sibuea et al., 2023) while peer assessment is a technique where a student's performance is evaluated by their peers (Adawiyah, 2023). Through this method, students can recognize their strengths and weaknesses as well as those of their classmates.

The AaL approach is relevant for developing presentation skills, for example, through self-reflection and feedback provided by peers. Research on the use of AaL in learning is still relatively rare in Indonesia. This is in line with the opinion of Anisah & Amreta (2023), who stated that most research on assessment focuses more on summative assessment themes. This is supported by interviews conducted at MA Al Anwar, which showed that the implementation of AaL is still minimal due to the lack of teacher planning and preparation for such activities, as well as concerns about the time and effort required to prepare AaL instruments. Research conducted by Hairida (2018) received positive responses from teachers and students of class X SMA Pontianak for implementing self-assessment and peer assessment, but such AaL was considered an additional burden for teachers as they had to create additional assessment instruments. Interviews with teachers and students at SMA Negeri Mojokerto Regency also indicated that teachers rarely conduct self-assessment due to time constraints in creating assessment instruments (Firda & Nurhadi, 2023).

Innovative and engaging learning media are crucial today to keep up with the times (Hairida, 2019). Digital technologies such as Google Forms offer great potential to support assessment as learning, although Google Forms has been widely used in education, its use has often been limited to assessment (Ridlo et al., 2025; Rohimat, 2021; Talakua et al., 2024; Utami, 2021), without utilizing advanced features such as the Autocrat add-on to generate more structured assessment reports. The use of these features to support self-assessment and peer assessment during presentations, particularly in chemistry learning, remains very rare. Google Forms can be designed to easily collect assessment data (Kalew et al., 2022), while add-ons like Autocrat allow for the automatic generation of assessment reports in structured document formats. The use of the Autocrat add-on has proven to increase the efficiency of data management and report generation, both in educational administration for creating SKPI (Febrianti et al., 2023) and in managing employee leave data (Syaefudin et al., 2020). This integration, if implemented in the assessment process, can help students understand assessment results more quickly. Therefore, the use of Google Forms with the Autocrat add-on can be an innovative solution in managing students' presentation skills assessment, especially in chemistry education.

Based on these issues, this study develops an Assessment as Learning instrument based on Google Forms with the Autocrat add-on to assess students' presentation skills, particularly in chemistry education. The aim of this research is to identify the validation level of the Google Forms-based Assessment as Learning instrument with the Autocrat add-on in assessing presentation skills, covering aspects of assessment validity, language, and media. Additionally, this study aims to explore teacher and student responses to the implementation of this instrument in the assessment process. Through this instrument, students can be more actively involved in the learning process through self-assessment and peer-assessment, which can ultimately enhance their confidence and ability to deliver presentations.

METHOD

The research method applied in this study is the Research and Development (R&D) method. According to Sukmadinata (2010), research and development is a series of steps aimed at creating a new product or improving an existing product that can be justified. This research uses the ADDIE model developed by Robert Maribe Branch, which includes five main stages: Analysis, Design, Development, Implementation, and Evaluation. The ADDIE model was chosen due to its flexible and adaptive nature. As emphasized by Molenda (2003), the ADDIE model does not have a rigid standard structure; instead, it serves more as a general label for the instructional design process that can be adapted flexibly by practitioners. In this study, only three stages Analysis, Design, and Development were carried out due to time, access, and resource constraints, which limited the ability to proceed fully through the Implementation and Evaluation stages. This aligns with Branch (2009), assertion that the application of the ADDIE model can be adjusted to suit the real conditions of a development project. In this study, only

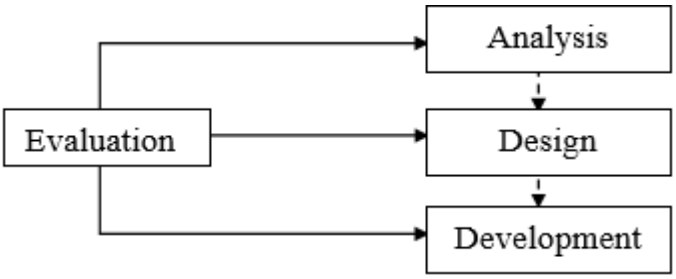


Figure 1. Research Model Section

three stages were carried out: analysis, design, and development. These stages were conducted to produce a validated product and to obtain responses from teachers and students regarding the developed product.

The research model in Figure 1 can be described as follows. The analysis stage includes examining the utilization of technology and internet networks for chemistry learning activities at MA Al Anwar, identifying challenges in implementing assessment as learning, analyzing the obstacles teachers face in applying assessment as learning, and evaluating the learning objectives of the chemistry subject. This analysis is then reviewed by the researcher. The design stage involves determining the aspects of presentation skills, developing guidelines for teachers, selecting an assessment template, and designing the workflow of self-assessment and peer-assessment for the developed product. The development stage focuses on creating the product, starting with the construction of a presentation skills rubric, designing the assessment instrument in Google Forms, integrating it with spreadsheets and Autocrat, and further refining it based on validation by assessment experts, language experts, and media experts.

The subject of this study is the assessment as learning instrument based on Google Forms with the Autocrat add-on, designed to assess presentation skills, while the test subjects include validators, teachers, and students. This study employs data collection techniques in the form of questionnaires and interviews. The data analysis techniques used include validation analysis and responses from teachers and students. The validity of the presentation assessment rubric is determined based on the evaluations provided by assessment experts. Validators are given an assessment sheet using a relevant-irrelevant scale along with a comment/suggestion section. The validation results are analyzed using the CVR Lawshe formula, which was also applied in the study by Setiyawati et al. (2021). The CVR and CVI formulas are as follows:

$$CVR = \frac{N_e - (\frac{N}{2})}{\frac{N}{2}} \qquad CVI = \frac{\Sigma CVR}{\Sigma n}$$

Description:
Ne: Number of experts who provide a relevant score
n: Total number of items across all aspects with a relevant score
N: Total number of validator members

The validity standard of an item can be determined based on Lawshe's reference, as presented in Table 1.

Table 1. Minimum Values for CVR and CVI Scores Adjusted to the Number of Validators

Number of Validators	Minimum Value
5	0,99
6	0,99
7	0,99
8	0,78
9	0,75
10	0,62

Based on table 1, the assessment rubric is considered valid if it has been validated by five validators and has obtained a minimum score of 0.99.

The validation of language and media in this study utilizes a 4-point Likert scale: SS (Strongly Agree) with a score of 4, S (Agree) with a score of 3, TS (Disagree) with a score of 2, and STS (Strongly Disagree) with a score of 1. The data obtained from the language and media validator assessments are then processed using a percentage score calculation formula. The formula used is as follows:

$$\% \text{ Score} = \frac{Total\ score\ obtained\ for\ each\ item}{Maximum\ possible\ score\ for\ all\ items} \text{ x } 100\%$$

This formula aims to convert the raw scores obtained into a percentage format, facilitating the analysis and interpretation of results. Subsequently, the overall calculation for each aspect of language and media can be determined using the following formula:

$$\% \text{ Overall Score} = \frac{Total\ Score\ Obtained}{Maximum\ Possible\ Score} \text{ x } 100\%$$

The final results of this analysis were then matched with the percentage criteria table adapted from Ambriani & Nurhidayat (2020), as shown in Table 2.

Table 2. Percentage Criteria for Language and Media Validation

No.	Percentage (%)	Criteria
1.	81-100	Highly feasible
2.	61-80	Feasible
3.	41-60	Fairly feasible
4.	21-40	Not feasible
5.	0-20	Highly unfeasible

Based on table 2, the language and media aspects are considered suitable for use if the obtained score exceeds 60, meeting the "feasible" criteria.

The teacher and student response questionnaire was conducted to understand their perceptions of the developed product. This study utilized a closed-ended questionnaire, designed so that respondents were required to select one answer by marking each item, which was distributed

via Google Forms. The teacher and student response questionnaire employed a four-point Likert scale, namely SS (Strongly Agree) with a score of 4, S (Agree) with a score of 3, TS (Disagree) with a score of 2, and STS (Strongly Disagree) with a score of 1. The responses from teachers and students regarding the developed product were calculated using the percentage of the total score obtained per item with the following formula:

$$P = \frac{\Sigma X}{\Sigma Xi} x100\%$$

Description:
P: Percentage of the obtained score
ΣX: Total score for each item
ΣXi: Expected total score

The score per item that has been obtained can be used to calculate the total percentage of each teacher and student response using the following formula:

$$P\ total = \frac{\Sigma P}{n}$$

Description:
P_{total}: Total Response Percentage
ΣP: Total Percentage of Score Acquisition
n: Number of Items

The final results of the analysis were then compared with the teacher and student response questionnaire table adapted from Kartini & Putra (2020), as shown in table 3.

Table 3. Table of Teacher and Student Response Percentages

No.	Percentage (%)	Criteria
1.	81-100	Very Good
2.	61-80	Good
3.	41-60	Sufficient
4.	21-40	Lacking
5.	0-20	Very Lacking

Based on Table 3, the product is considered suitable for use in learning if it receives a positive response from teachers and students with a percentage above 61%.

RESULTS AND DISCUSSION

The development of an assessment-as-learning (AaL) instrument based on Google Forms with the Autocrat add-on for evaluating presentation skills in chemistry learning has undergone analysis, design, and development stages.

The analysis phase included needs analysis and learning objectives analysis. The needs analysis revealed that the implementation of AaL at MA Al Anwar Pontianak remains limited despite the availability of adequate technology and internet access. The primary challenges include a lack of teacher planning and concerns regarding the time and effort required to prepare AaL instruments. Self-assessment and peer-assessment in chemistry learning are rarely implemented due to teachers' limited understanding and the absence of appropriate instruments. Further analysis of learning objectives indicated that one of the goals of the chemistry curriculum is to develop students' scientific communication skills, both orally and

in writing. Therefore, a prototype AaL design is needed to facilitate AaL implementation and support students in achieving chemistry learning objectives.

The design phase involved the initial planning, including the determination of presentation skills aspects, the development of a user guide for teachers, the selection of assessment templates, and the design of self-assessment and peer-assessment mechanisms for the developed product, as illustrated in Figure 2.

Figure 2. (a) Self-assessment mechanism & (b) Peer-assessment mechanism

The development phase involved creating an assessment-as-learning (AaL) instrument based on Google Forms with the Autocrat add-on to evaluate presentation skills, following the mechanisms illustrated in Figure 2. The product development process began with designing a presentation skills assessment rubric, adopting aspects from Ginkel, Gulikers, et al., (2015) and Nadolski et al., (2021) Next, templates for self-assessment and peer-assessment results were created using Canva. The subsequent step involved designing self-assessment and peer-assessment instruments in Google Forms by incorporating the presentation skills assessment rubric into the form. The collected data from Google Forms was then automatically organized into a spreadsheet. Formulas were structured within the spreadsheet according to the assessment requirements, and the Autocrat add-on was utilized to integrate the data into the prepared result templates. As a result, this process enabled seamless data transfer from Google Forms to the templates, streamlining data processing and analysis.

In the final stage, a Google Drive link was generated, containing a folder that systematically organized all product components. This folder included the result templates, self-assessment and peer-assessment forms, and spreadsheet files with assessment data from each instrument. This structured storage system ensured that the assessment product was well-organized and easily accessible.

The developed product underwent a validation process by assessment, language, and media experts. The presentation skills rubric was validated by five assessment experts, consisting of two lecturers and three teachers. The rubric was evaluated using a relevance scale. The researcher provided the presentation skills assessment rubric, which was then assessed by the validators. Each aspect in the rubric was evaluated based on three indicators: the alignment of aspects with presentation skills, the appropriateness of assessment criteria with presentation indicators, and the clarity of the rating scale. These three key indicators were applied to six presentation skills aspects. The alignment of aspects with presentation skills was deemed valid as each indicator was designed to encompass essential elements of presentation skills.

The validation results of the presentation rubric by five assessment validators indicated a very high level of relevance across all assessed indicators. The detailed results of the presentation rubric validation are presented in table 4.

Table 4. Analysis of Presentation Rubric Validation Results by Assessment Validators (N=5)

Assessment Indicator	Presentation Item No.	Validator					CVR	Criteria
		1	2	3	4	5		
Alignment of aspects with presentation skills	1	R	R	R	R	R	1,00	Valid
	2	R	R	R	R	R	1,00	Valid
	3	R	R	R	R	R	1,00	Valid
	4	R	R	R	R	R	1,00	Valid
	5	R	R	R	R	R	1,00	Valid
	6	R	R	R	R	R	1,00	Valid
Alignment of assessment criteria with presentation indicators	1	R	R	R	R	R	1,00	Valid
	2	R	R	R	R	R	1,00	Valid
	3	R	R	R	R	R	1,00	Valid
	4	R	R	R	R	R	1,00	Valid
	5	R	R	R	R	R	1,00	Valid
	6	R	R	R	R	R	1,00	Valid
Clarity of the assessment scale	1	R	R	R	R	R	1,00	Valid
	2	R	R	R	R	R	1,00	Valid
	3	R	R	R	R	R	1,00	Valid
	4	R	R	R	R	R	1,00	Valid
	5	R	R	R	R	R	1,00	Valid
	6	R	R	R	R	R	1,00	Valid
CVI							1,00	Valid

Based on Table 4, the content validity ratio (CVR) reached 1.00 for each indicator. Additionally, the content validity index (CVI) of 1.00 reinforces the conclusion that the developed rubric is highly relevant and can be used to assess students' presentation skills. The assessment aspects were adapted and modified from various references, resulting in six key presentation skills: language use, audience interaction, body language, content quality, voice control, and time management (Ginkel et al., 2017; Nadolski et al., 2021).

Effective language use ensures clear message delivery through appropriate word choice and sentence structure (Aji et al., 2024). Audience interaction reflects the ability to establish two-way communication, enhancing audience engagement and comprehension (Park et al., 2019). Body language, including gestures, facial expressions, and eye contact, plays a crucial role in effective communication and influences audience perception of the presenter (Yulistiani, 2021). Content quality emphasizes well-structured, relevant, and engaging material that facilitates audience understanding (Zulfahira et al., 2024). Proper voice control, encompassing intonation, volume, and speech pace, helps maintain audience attention throughout the presentation (Apriliyanti, 2023).

Time management is essential to ensure that the presentation runs within the allotted duration, allowing all key points to be effectively conveyed (Gea, 2014). These aspects collectively contribute to delivering an effective presentation. According to Andrade (2000) using a rubric with a clear scoring scale helps students understand the expected quality of their work, ultimately increasing their motivation to improve their assessed skills.

The presentation skills rubric was also evaluated for linguistic accuracy by two language experts to ensure that the criteria descriptions were written in accordance with proper Indonesian language conventions, as outlined in the General Guidelines for Indonesian Spelling (PUEBI). The results of the language validation are presented in table 5.

Table 5. Analysis of Presentation Rubric Validation Results by Language Validators (N=2)

Indicator	Presentation Item Number	Validator		Score	Criteria
		1	2		
Easily comprehensible sentence	1	3	4	87,5	Highly feasible
	2	4	3	87,5	Highly feasible
	3	4	4	100	Highly feasible
	4	3	4	87,5	Highly feasible
	5	3	4	87,5	Highly feasible
	6	4	4	100	Highly feasible
Grammatically correct	1	4	4	100	Highly feasible
	2	4	3	87,5	Highly feasible
	3	4	4	100	Highly feasible
	4	3	4	87,5	Highly feasible
	5	3	4	87,5	Highly feasible
	6	4	4	100	Highly feasible
Total Obtained (X)		43	46	93%	Highly feasible
Total Expected (Xi)		48	48		

Based on Table 5, the linguistic aspects of the presentation rubric are easy to understand and grammatically appropriate. The overall average result indicates that the presentation skills rubric, from a linguistic perspective, achieved an excellent score of 93%, with some suggested revisions before implementation. The suggested revisions from the validators include: 1) correcting typographical errors, and 2) replacing the term 'presenter' with 'speaker.' The revised version is presented in Table 6.

Table 6. Before and After Revision of Linguistic Aspects

Before Revision	After Revision
Presenter berbicara dengan lancar, tanpa tersendat atau gagap, sehingga alur presentasi dapat berjalan dengan mulus dan audiens dapat mengikuti dengan mudah.	Penyaji berbicara dengan lancar, tanpa tersendat atau gagap, sehingga alur presentasi dapat berjalan dengan mulus dan audiens dapat mengikuti dengan mudah.

Table 6 presents the modification of the term “presenter” to “penyaji” in the presentation rubric. According to the validators, the term “penyaji” is more appropriate than “presenter” as it aligns better with standard Indonesian language conventions and the rules set by the Kamus Besar Bahasa Indonesia (KBBI). In KBBI, “presenter” is more commonly associated with a host or broadcaster in the media industry, whereas “penyaji” refers to an individual who delivers or presents material. Additionally, “penyaji” is generally more suitable for describing someone presenting information in seminars, thesis defenses, or educational settings. This terminology change aims to enhance clarity, standardization, and accuracy in scientific and academic language. Following the revisions based on these suggestions, the presentation skills assessment rubric was deemed valid in terms of assessment and highly appropriate linguistically, making it suitable for use and integration into Google Forms.

This presentation skills assessment rubric is not limited to chemistry subjects alone but is applicable across various fields of study. The primary focus of the rubric lies in evaluating the delivery aspects of a presentation rather than the specific content being presented. It emphasizes elements such as stage presence, the logical organization of material, and effective communication techniques. Its flexibility allows educators to assess students' presentation

abilities regardless of subject matter. Although the examples embedded in the rubric are chemistry-based, its implementation can be adapted to suit different disciplinary contexts. Consequently, this rubric may serve as a comprehensive assessment tool to evaluate and simultaneously foster students' presentation competencies, with appropriate contextual modifications.

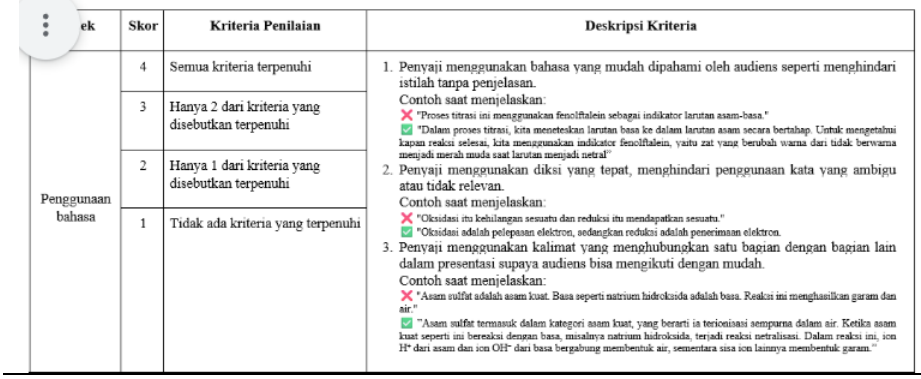
The media validators assessed the assessment-as-learning instrument based on Google Forms with the Autocrat add-on to evaluate presentation skills. The evaluation was conducted based on five key aspects: appearance, performance, efficiency, functionality, and cost-effectiveness. The assessment results are presented in table 7.

Table 7. Analysis of Media Validation Results by Media Validators (N=2)

Aspect	Indicator	Expert 1	Expert 2	Score	Criteria
Display	Placement of identity on Google Forms	4	4	100	Highly feasible
	Placement of presentation skills assessment rubric on Google Forms	3	4	87,5	Highly feasible
	User instructions for students on Google Forms	4	4	100	Highly feasible
	Display of self-assessment results in PDF format	4	4	100	Highly feasible
	Display of peer assessment results in PDF format	4	4	100	Highly feasible
	User instructions for teachers in PDF format	4	4	100	Highly feasible
Performance	This tool does not experience errors or disruptions during use	3	4	87,5	Highly feasible
Efficiency	Time efficiency in conducting assessments	3	4	87,5	Highly feasible
Function	Ease of conducting assessment as learning	4	4	100	Highly feasible
		3	3	75	Feasible
	Ease of assessing presentation skills	4	4	100	Highly feasible
	Ease of operating the product	3	4	87,5	Highly feasible
		3	4	100	Highly feasible
Cost-effective	Resource efficiency compared to manual methods	4	4	100	Highly feasible
	Ease of access without additional costs for students and teachers	4	4	100	Highly feasible
Total Obtained (X)		54	59	95%	Highly feasible
Total Expected (Xi)		60	60		

In terms of appearance, the identity, assessment rubric, usage guidelines, and assessment results in PDF format were deemed highly appropriate. The validators suggested enlarging the presentation rubric display to prevent blurriness when viewed, as shown in table 8.

Table 8. Before and After Revision of Media Aspects

Before Revision	Description
	The appearance of the rubric is not very clear and a bit blurry.

Before Revision			Description
	Kriteria Penilaian	**Deskripsi Kriteria**	The appearance of the rubric has been improved by enlarging the assessment rubric image so that it can be seen clearly.
4	Semua kriteria terpenuhi	1. Penyaji menggunakan bahasa yang mudah dipahami oleh audiens seperti menghindari istilah tanpa penjelasan. Contoh saat menjelaskan: ❌ "Proses titrasi ini menggunakan fenolftalein sebagai indikator larutan asam-basa." ✅ "Dalam proses titrasi, kita meneteskan larutan basa ke dalam larutan asam secara bertahap. Untuk mengetahui kapan reaksi selesai, kita menggunakan indikator fenolftalein, yaitu zat yang berubah warna dari tidak berwarna menjadi merah muda saat larutan menjadi netral" 2. Penyaji menggunakan diksi yang tepat, menghindari penggunaan kata yang ambigu atau tidak relevan. Contoh saat menjelaskan: ❌ "Oksidasi itu kehilangan sesuatu dan reduksi itu mendapatkan sesuatu." ✅ "Oksidasi adalah pelepasan elektron, sedangkan reduksi adalah penerimaan elektron. 3. Penyaji menggunakan kalimat yang menghubungkan satu bagian dengan bagian lain dalam presentasi supaya audiens bisa mengikuti dengan mudah. Contoh saat menjelaskan: ❌ "Asam sulfat adalah asam kuat. Basa seperti natrium hidroksida adalah basa. Reaksi ini menghasilkan garam dan air." ✅ "Asam sulfat termasuk dalam kategori asam kuat, yang berarti ia terionisasi sempurna dalam air. Ketika asam kuat seperti ini bereaksi dengan basa, misalnya natrium hidroksida, terjadi reaksi netralisasi. Dalam reaksi ini, ion H^+ dari asam dan ion OH^- dari basa bergabung membentuk air, sementara sisa ion lainnya membentuk garam."	
3	Hanya 2 dari kriteria yang disebutkan terpenuhi		
2	Hanya 1 dari kriteria yang disebutkan terpenuhi		
1	Tidak ada kriteria yang terpenuhi		

Table 8 illustrates the differences in one aspect of the presentation skills assessment rubric within Google Forms before and after enlarging the display. Before enlargement, the rubric display was difficult to read, potentially hindering students in conducting assessments. Therefore, the researcher made efforts to enlarge the rubric display for better clarity. After the revision, the assessment rubric became significantly easier to read. Other aspects indicate that the media functioned properly without errors or disruptions during use. Additionally, the use of Google Forms with the Autocrat add-on proved to be time-efficient for assessing presentation skills compared to manual methods. This platform allows students to easily conduct self-assessment and peer assessment, aligning with the Assessment as Learning (AaL) approach. Furthermore, this digital assessment method is user-friendly for both teachers and students and is more cost-effective than traditional paper-based assessment. Overall, the media validation results for the assessment-as-learning instrument based on Google Forms with the Autocrat add-on received an excellent rating, with a total score of 95%, categorizing it as highly feasible. The overall validation results indicate that this instrument achieved a score of 95% and is highly suitable for classroom assessment.

A response test on the assessment-as-learning product using Google Forms with the Autocrat add-on for evaluating presentation skills was conducted by distributing a questionnaire via Google Forms. The response test consisted of teacher and student evaluations. The teacher response test involved three chemistry teachers who actively implement 21st-century learning models. The evaluated aspects included usefulness, attractiveness, and ease of use of the assessment-as-learning instrument based on Google Forms with the Autocrat add-on for assessing presentation skills. The results of the teacher response test for this product are presented in Table 9.

Table 9. Analysis of Teacher Response Results

Aspect	**Respondent**			**Score**	**Criteria**	**Percentage Average for Each Aspect (%)**	**Criteria**
	1	**2**	**3**				
Usefulness	4	3	3	83,33	Very good	83	Very good
	4	3	3	83,33	Very good		
	4	3	3	83,33	Very good		
Attractiveness	4	3	3	83,33	Very good	83	Very good
	4	3	3	83,33	Very good		
	4	3	3	83,33	Very good		
Ease of Use	4	3	3	83,33	Very good	83	Very good
	4	3	3	83,33	Very good		
				Total	**Overall Percentage (%)**		**Criteria**
Total Obtained (X)				700	83		Very good
Total Expected (Xi)				800			

Based on the data in Table 9, this product is rated as excellent (83%) in terms of usefulness. Teachers agreed that the product significantly saves time compared to manual assessment methods, which tend to be more time-consuming both in terms of completion and distributing assessment results. Additionally, the product allows students to provide feedback to their peers. This product was also considered an innovation in the assessment process, receiving an excellent rating (83%) for attractiveness. All participating teachers agreed that using this product provides a more engaging experience than conventional methods. Moreover, the product successfully increased teachers' enthusiasm for conducting presentation skills assessments, as it offers students the opportunity to assess both themselves and their peers.

The ease-of-use aspect also received an excellent rating (83%). The usage guidelines provided in this product were deemed easy to understand, facilitating teachers in operating the assessment system. The product also simplifies the review process of assessment summaries, making the evaluation process more organized and efficient. However, several technical challenges need to be addressed. The use of the Autocrat add-on requires more time to generate documents when the number of student data entries per row increases. This issue can become more complex if the internet connection is unstable or if the hardware, such as a laptop, has insufficient specifications. Overall, this product is considered highly beneficial for teachers in facilitating students' self-assessment and peer assessment of presentation skills, with an overall teacher response percentage of 83%.

The student response test was conducted on both a small and a large scale. The small-scale trial aimed to identify weaknesses or errors in the developed product. Student feedback during this phase was utilized to refine the product before conducting a large-scale test (Asna et al., 2024; Ayubidari et al., 2019). The small-scale response test was conducted with seven students from Grade 10 at MA Al Anwar Pontianak. The results of the small-scale student response test are presented in table 10.

Table 10. Results of Small-Scale Student Response Test

Aspect	Respondent							Score	Criteria	Percentage Average for Each Aspect (%)	Criteria
	1	2	3	4	5	6	7				
Usefulness	4	4	3	3	4	4	4	92,86	Very good	91	Very good
	4	4	4	3	4	3	3	89,29	Very good		
	4	4	4	4	3	4	3	92,86	Very good		
	4	4	4	3	3	4	3	89,29	Very good		
Attractiveness	4	4	4	3	4	4	2	89,29	Very good	90	Very good
	4	4	4	4	4	4	2	92,86	Very good		
	4	4	3	4	4	3	3	89,29	Very good		
Ease of Use	4	4	4	3	4	3	3	89,29	Very good	89	Very good
								Total	**Overall Percentage (%)**		**Criteria**
Total Obtained (X)								725,03	91		Very good
Total Expected (Xi)								800			

The results of the small-scale student response test showed a score of 91%, which falls into the 'excellent' category. However, network issues remain unavoidable, and assessment conditions in the field need to be well-managed to ensure a more conducive environment. The large-scale response test was conducted with 26 students at MA Islamiyah Pontianak, and the results are presented in Table 11.

Based on the analysis of student response tests, three main aspects were evaluated: usefulness, attractiveness, and ease of use. The usefulness aspect obtained an average percentage of 84%, reflecting a very good result from the students. The attractiveness aspect reached 86%, indicating that they were interested in the assessment as learning based on Google Forms with

the Autocrat add-on being tested. Meanwhile, the ease of use aspect obtained the highest percentage, at 87.5%, confirming that this instrument significantly facilitated students in conducting assessments. Students found it helpful in evaluating presentation skills, both their own and their peers'.

Table 11. Results of Large-Scale Student Response Test

Indicator	Total	Average for Each Indicator (%)	Criteria
Usefulness	84,62	84	Very good
	79,81		
	88,46		
	84,62		
Attractiveness	86,54	86	Very good
	87,50		
	83,65		
Ease of Use	87,50	87,5	Very good
	Total	**Overall Percentage (%)**	**Criteria**
Total Obtained (X)	682,69	85	Very good
Total Expected (Xi)	800		

This assessment assisted them in identifying existing shortcomings, providing opportunities for more targeted improvements. Self-assessment helped students become independent learners who could regulate themselves, while peer assessment facilitated students in evaluating their peers' performance (Lukitasari et al., 2021). Additionally, students demonstrated a high awareness of responsibility in assessing themselves and their peers, encouraging their active engagement in the assessment process while providing them with a new experience. The majority of students stated that they were interested in this assessment method because it presented assessment results directly in the form of a PDF document sent via email. This feature provided convenience in accessing evaluation results quickly and in a clear, easy-to-understand format. Activities that deliver results promptly tend to be preferred by students (Saptadi et al., 2023). Field observations also showed students' enthusiasm in conducting assessments.

In terms of ease of use, students stated that this product facilitated self and peer assessment while helping record assessment results more efficiently compared to conventional methods. This finding aligns with the study by Ridlo (2025), which stated that using Google Forms as an evaluation tool can save time, effort, and support paper-saving initiatives. However, during the trial of this product, some issues arose, such as full email inboxes preventing the successful delivery of PDF assessment results, forgotten email account passwords, slow internet connections, or technical difficulties in accessing or using the browser due to device limitations or software compatibility issues. Overall, students provided an excellent response to the assessment as learning instrument based on Google Forms, which was perceived as beneficial, engaging, and facilitating the evaluation process of presentation skills, with an overall percentage of 85% categorized as very good.

The findings of this study indicate that the development of assessment instruments using Google Forms and the Autocrat Add-On to evaluate presentation skills as part of technology based assessment supports the implementation of student-centered learning and Assessment as Learning (AaL) in the classroom. This technology enables students to take a more active role in assessing and reflecting on their learning process, aligning with the *Merdeka Belajar* principle, which emphasizes student autonomy and independence. The integration of Google Forms and Autocrat facilitates the delivery of rapid and structured feedback, helping students identify strengths and weaknesses in their presentations. This process promotes self-reflection

and the independent planning of improvement strategies, which lies at the heart of the AaL approach. However, the implementation of this approach faces several challenges.

Not all teachers or schools have sufficient access to technology or the technical skills needed to use it effectively. Some students also require time to adapt to the use of technology in learning. It is important to note that students' cognitive capacity develops with age, particularly in terms of self-reflection and self-evaluation. At lower educational levels, instruments may need to be simplified due to the limitations of working memory and developing metacognitive abilities. In contrast, at the high school or university level, such instruments are more optimal, as students have achieved greater prefrontal cortex maturity, which supports critical thinking and deeper self-evaluation (Haggerty et al., 2011). Overall, the application of technology in AaL-based learning has the potential to provide systematic feedback, enhance students' active participation, and support the *Kurikulum Merdeka*. However, its implementation across various subjects and educational levels still requires further investigation to ensure the effectiveness and sustainability of this approach.

CONCLUSION

The Google Forms-based Assessment as Learning instrument with the Autocrat add-on for assessing presentation skills has been validated and deemed highly feasible in terms of assessment, language, and media, and has received very positive responses from teachers and students.

RECOMMENDATIONS

This study has received very positive responses from students and teachers; however, there is still room for improvement and further development to make the product more engaging, interactive, and enjoyable, thereby optimally supporting the assessment process in chemistry education. Additionally, its implementation requires more attention to teacher laptop specifications, internet access, and the quality of students' devices, such as ensuring active email accounts, sufficient storage, and good accessibility for students. A suggestion to enhance the effectiveness of this product is to develop an application that does not require additional extensions like Autocrat. As for the presentation rubric, usage and product instructions can be seen on the following link:
https://drive.google.com/drive/folders/1uYsDebE2PDn1SL1b6k2vmgac6vZzR-rK

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