



# DEVELOPMENT OF INTERACTIVE MULTIMEDIA ASSISTED BY CLASSPOINT TO IMPROVE STUDENTS' ENTHUSIASM ON THE HUMAN RESPIRATORY SYSTEM IN GRADE V ELEMENTARY SCHOOL

Zahira Khofifa Ismi<sup>1</sup>, Fitria Syahra<sup>2\*</sup>, Punaji Setyosari<sup>3</sup>, Eka Pramono Adi<sup>4</sup>

State University of Malang, Jl. Semarang No. 5 Malang, East Java, Indonesia

\*Fitria Syahra, Email: fitria.syahra.2301216@students.um.ac.id

## Abstract

One of the challenges facing education in this era is the need to adapt to current trends in learning media. This research aims to develop interactive multimedia using ClassPoint. Feasible, practical, and effective, and able to increase student enthusiasm in learning. This research and development model, using Lee & Owens, has five stages: analysis (initial-final analysis), design, development, implementation, and evaluation. The data collection techniques and instruments used were questionnaires, as well as qualitative and quantitative analysis. The results of the validation test by material experts reached a percentage of 95.8%, media experts 97.5% with a valid/feasible category. The results of the questionnaire distribution for student responses related to practicality and enthusiasm sequentially obtained 93.9% who got the practical category and 95.9% who got the enthusiastic category. The student learning outcomes obtained a g value of 0.65, which is in the moderate category. Therefore, interactive multimedia assisted by ClassPoint is considered suitable for use as a medium in learning.

**Keywords:** ClassPoint; Student Enthusiasm; Human Respiratory System

## 1. Introduction

The use of learning media is a challenge in education, especially in the current era, as it must adapt to current developments (RIRIN, 2021). (Effendi & Wahidy, 2019) emphasized that the characteristics of 21st-century learning are characterized by the use of information and communication technology (ICT) in teaching and learning activities. Learning media has evolved beyond physical media to include a combination of other media components such as text/writing, audio/sound, images/animation, graphics, and video, utilizing more than one of the five senses, known as multimedia (Prasetyo, 2018).

The development of technology that has penetrated the world of education requires educators to be sensitive, able to adapt, and be able to innovate to create learning media that adapts to the conditions and characteristics of students in the 21st century, where students are accustomed to and proficient in using information technology in the form of computers or laptops and cellphones. This is in line with Chuang (Untari, 2022), who stated that learning activities will attract attention and arouse students' interest in learning if the learning is assisted by ICT, such as learning media that can be operated using a smartphone. (Mardhiyah et al., 2021) stated that 21st-century learning has now centered on students (student-centered), where the teacher only acts as a facilitator and motivator.

The interview was conducted at SDN Madyopuro 01 Malang by a fifth-grade teacher on February 12, 2024. The interview revealed that during science lessons, students' enthusiasm for learning depended on the media and methods used. The teacher stated that students would be enthusiastic if the presentation were interesting. Students' enthusiasm during science lessons was evident when they focused on the teacher's explanations. However, if they began to feel bored, they would ignore the lesson and tend to be noisy.

The problem encountered was the suboptimal use of instructional media in the learning process. Conventional media such as whiteboards, notebooks, and textbooks/worksheets were frequently used by teachers. Teachers admitted to utilizing LCD projectors as learning media, but lacked variety in their use of technology. They used instructional videos taken from YouTube. And PowerPoint, but only as a display. The teacher said that students were interested in the learning media presented by the teacher, but the lack of student involvement in the use of learning media triggered boredom because students tended to be more passive during learning, and ultimately ignored the teaching and learning process. It was seen that only a few were actively participating in questions and answers. This was because the teacher used learning media only as a display for students without involving students in its use, so that learning would only be teacher-centered, thus students only played the role of listeners or viewers. In learning, students tend to be more passive due to three things: there is no motivation and enthusiasm of students in learning, the teacher dominates the learning, and there is a lack of interaction or student involvement during learning.

The results of the questionnaire distributed to fifth-grade students showed that the problem faced by students lies in understanding material that is considered difficult for students, namely, the material on human organs, especially the human respiratory system. This condition is caused by the material being presented being too much and containing difficult terms, so that students will have difficulty understanding the material due to the limited use of learning media. The results of the questionnaire also stated that students prefer using LCD projectors in understanding science material rather than reading textbooks/LKS. Most students are also able to operate computers; only a few need guidance. Students are also interested in learning using technology-based learning media, but are not yet familiar with the ClassPoint application.

Seeing this problem, researchers developed learning media using the ClassPoint application. The ClassPoint application is software that is integrated with Microsoft PowerPoint to create engaging learning through the use of interactive multimedia, assisted by ClassPoint. ClassPoint application has the advantage of presenting material to students and creating interesting and interactive quizzes with various forms of question presentation such as multiple choice/multiple choice, short answer/short entry, word cloud/word cloud quiz, slide drawing/draw on slide, competition mode, upload image, and others (Sundari et al., 2021). Through the ClassPoint application, students will be involved in interactive multimedia so that two-way interaction will be created, namely between students and teachers as well as with learning media.

This learning media was developed based on interactive principles, which require user involvement with the learning media, so that it can accustom students to independent or individual learning. The goal is for students to develop a sense of responsibility for their actions and not always rely on others. Interactive multimedia supported by ClassPoint. It is

hoped that it will increase students' enthusiasm because students can participate with any device they have, whether a laptop, computer, or cell phone. When students are involved in learning activities, it opens up opportunities for students who are less responsive during the learning process to use interactive multimedia supported by ClassPoint. This can encourage students to participate in class so that they can motivate themselves to follow the learning well.

Previous research by (Kurniawan & Yatri, 2022) stated that the ClassPoint application has many advantages. It makes it easy for students and teachers to use because it is integrated with Microsoft PowerPoint, a software that offers many advantages in terms of its features for creating presentation media. The ClassPoint application provides a positive response from students because it can increase student enthusiasm and activate student responses and student independent learning through interesting features. This is proven by the ClassPoint application media. According to previous research, to be a learning media with very good criteria, it must obtain a high percentage of 93.7% from the results of expert tests related to validity. The weakness of the media developed by previous research is that the researcher only used the ClassPoint application as an evaluation, without providing material presentations; therefore, the researcher modified it by developing learning media containing material presentations equipped with images/animations, audio, and video, as well as quizzes, as an evaluation.

Thus, this research and development was conducted with the title "Development of Interactive Multimedia Assisted by ClassPoint to Increase Student Enthusiasm for Human Respiratory System Material for Grade V Elementary School". This research and development aims to produce interactive multimedia that is declared feasible based on experts, practical and effective according to students, and able to increase student enthusiasm by utilizing interactive multimedia assisted by ClassPoint.

## 2. Method

This research is included in research and development(R&D) by referring to the Lee & Owens (2004) development model. The research and development procedure in the Lee & Owens model consists of five stages, namely (1) assessment/analysis (assessment/analysis) which includes needs analysis (need assessment) and initial final analysis (front-end analysis), (2) design (design), (3) development (development), (4) implementation (implementation), and (5) evaluation (evaluation). Fifth-grade students of SDN Madyopuro 01 Malang became the trial subjects in the research conducted. The media trial was conducted three times, including selecting 3 students from class VB as individual trials, 6 students from class VB as small group trial subjects, and 21 students from class VA as large group trial subjects. The method used to collect information in obtaining data was the distribution of questionnaires, and the data analysis used qualitative and quantitative data analysis.

The types of data in the research conducted were qualitative data obtained from input in the form of criticism and suggestions, and quantitative data in the form of assessment scores from the results of validation tests by material experts, media experts, student responses, and student learning outcomes. A regular scale was used as a guide in assessing the validation questionnaires of experts and student responses, with a measurement scale of 1-4. Next, the assessment data were analyzed to determine the level of validity/feasibility of

the media based on the experts (material and media). Data obtained from the results of student responses were analyzed to determine the level of practicality and enthusiasm. Meanwhile, student learning outcomes were analyzed to determine the level of effectiveness after using interactive multimedia assisted by ClassPoint. Quantitative data were analyzed using the formula below, where P is the percentage, Tse is the total score achieved, and Tsh is the maximum score. The following is the formula for analyzing quantitative data according to (Sugiyono, 2013).

$$P = \frac{TS}{TSh} \times 100\%$$

Furthermore, the results of data analysis by experts and students in the form of descriptive percentages are interpreted into the assessment criteria for the media validity/suitability test, which have been described in Table 1 below.

**Table 1. Product Feasibility Test Criteria**

No	Achievement Criteria	Practicality Category
1.	85,01% - 100,00%	Valid/eligible
2.	70,01% - 85,00%	Quite valid/worthy
3.	50,01% - 70,00%	Less valid/worthy
4.	01,00% - 50,00%	Invalid/inappropriate

Source: Akbar (2017)

**Table 2. Enthusiasm Response Criteria**

No	Achievement Criteria	Enthusiasm Category
1.	85,01% - 100,00%	Enthusiastic
2.	70,01% - 85,00%	Quite enthusiastic
3.	50,01% - 70,00%	Lack of enthusiasm
4.	01,00% - 50,00%	Not enthusiastic

Source: Adapted from Akbar (2017)

### 3. Results and Discussion

#### 3.1 Result

ClassPoint-assisted interactive multimedia. This has gone through several stages in its development to produce a final product in the form of interactive multimedia assisted by ClassPoint, which is run using Microsoft PowerPoint 360 by utilizing ClassPoint features. Interactive multimedia assisted by ClassPoint is used with a computer or mobile device with an internet connection (online). Use for teachers requires installation of the ClassPoint

application, which can be downloaded via the website <https://classpoint.io>, while for students to use it, simply join via the website <https://www.classpoint.app>.

Product specifications from the media design results include the initial display, main menu, KI display, KD, Indicators, material menu, material content, quizzes using the ClassPoint application features, leaderboard, developer profile, and user guide. Figures 1 and 2 show the resulting media design.



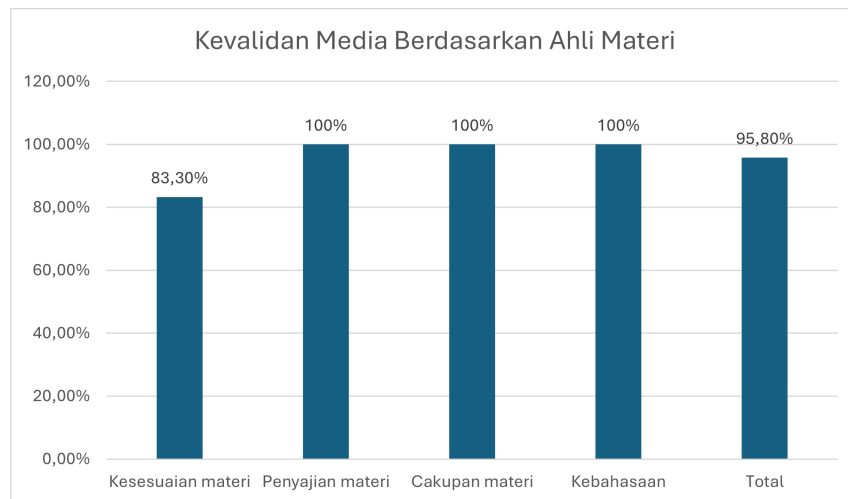
Teacher's LCD



Figure 1. Initial Display on

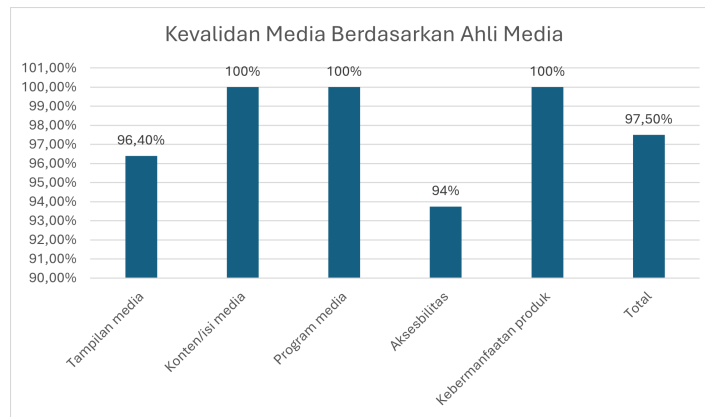
Figure 2. Initial View on Student Device

The next step was validation by material and media experts, which was carried out in May 2024. Media validation was carried out by two validators, one for material and one for media, who was a lecturer at Malang State University. Media validation was conducted to determine the level of validity/feasibility of the media according to the material and media experts. Figure 3 shows the results of product testing related to media validity/feasibility by material experts.



**Figure 3. Product Validation Results By Material Experts**

The results of product validation by material experts, as shown in Figure 3, yielded a total average score of 95.8%. Specifically, the assessment was based on four aspects to meet the product's validity level. The aspects of material presentation, coverage, and language achieved the highest



score, at 100%, while the aspect of material suitability achieved the lowest score, at 83.3%. The product validation by media experts is shown in Figure 4 as follows.

**Figure 4. Product Validation Results By Media Members**

Based on Figure 4, the results of product validation by media experts obtained a total average percentage value of 97.5%. Specifically, it was obtained from the assessment of five aspects to meet the level of product validity. The aspects of media content, media programs, and product usefulness obtained the highest percentage of 100%, while the aspects of media appearance and accessibility, both obtained percentages of 96.4% and 94%, respectively.

Based on the product validity assessment criteria the results from the two validators obtained a percentage of no less than 96.65% so that it is included in the interval of 85.01% - 100.00% which gets the valid/feasible category from experts (material and media) so that interactive multimedia assisted by ClassPoint on the human respiratory system material is suitable for use in learning.

However, the validators provided comments as criticism and suggestions to improve the resulting media, deeming it suitable for testing with students. The product was then revised based on the suggestions and input. Figures 6 and 7 below show the results of the product revisions made based on the validators' suggestions.

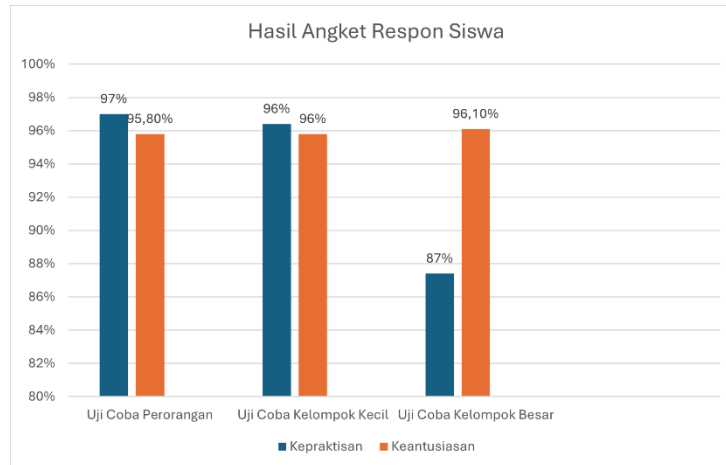


**Figure 6. Before Revisions**



**Figure 7. After Revisions**

After revisions, the interactive multimedia assisted by ClassPoint was ready to be tested on students on May 27-28, 2024, at SDN Madyopuro 01 Malang. The interactive multimedia trial assisted by ClassPoint was conducted three times: an individual trial, a small group trial, and a large group trial. The trial was carried out to determine the level of practicality and enthusiasm of



students through the results of student responses during the media trial. The following figure 8 shows the results of student responses to the media trial from the assessment of the student response questionnaire that had been distributed.

**Figure 8. Student Response Questionnaire Results**

The individual trial was conducted on May 27, 2024, with three students from class VB at SDN Madyopuro 01 Malang as the test subjects. Based on Figure 8, the results of the student response questionnaire regarding the assessment of the practicality and enthusiasm aspects both obtained percentages of 97% and 95.8%, respectively.

A small group trial was conducted on May 27, 2024, with 6 students of class VB of SDN Madyopuro 01 Malang as the test subjects. Based on Figure 8, the results of the student response questionnaire regarding the assessment of the practicality and enthusiasm aspects both obtained a percentage of 96% each. A large group trial was conducted on May 28, 2024, with 21 students in class VA of SDN Madyopuro 01 Malang. Based on Figure 7, the results of the student response questionnaire regarding the assessment of the practicality aspect obtained a percentage of 87% and the enthusiasm aspect of students obtained 96.1%.

The results of the student response questionnaire from the three trials regarding the level of practicality showed an average of 93.9%. Based on the criteria for the level of practicality of the product it is classified as being in the interval of 85.01% - 100.00%, which means it falls into the practical classification for students, making the media suitable for use in learning.

The results of the student response questionnaire regarding the character of enthusiasm obtained an average percentage of 95.9%. Based on the criteria for the level of product enthusiasm it is included in the interval of 85.01% - 100.00%, which means it falls into the

enthusiastic classification so that interactive multimedia assisted by ClassPoint can increase student enthusiasm.

After the trial was conducted, the next step was to find out the students' learning outcomes obtained from the provision of *pre-test* And *post-test* to students. The purpose of this multiple-choice objective test is to measure students' learning success after learning using interactive multimedia assisted by ClassPoint. This learning improvement test was conducted on 21 class VA students studying the Human Respiratory System in science at SDN Madyopuro 01, Malang. The data was processed using the formula *N-gain* which compares the acquisition value *pre-test* And *post-test* students. Questions *pre-test* And *pos-test* consists of 10 multiple choice questions. The data results are *pre test* And *post test* students as follows.

**Table 3. 10 Results *Pre-test* And *Post-test***

No.	Student Name	Pre-test	Post-test	Difference	N-gain
1.	ARPN	40	70	30	0,50
2.	AFB	30	100	70	1,00
3.	AH	80	80	0	0,00
4.	AHP	50	100	50	1,00
5.	ANR	70	80	10	0,33
6.	CAI	70	70	0	0,00
7.	DSA	90	90	0	0,00
8.	ECR	60	90	30	0,75
9.	FTI	40	100	60	1,00
10.	FMC	30	90	60	0,85
11.	GGP	80	90	10	0,50
12.	MK	60	80	20	0,50
13.	NAB	80	90	10	0,50
14.	PFA	90	90	0	0,00
15.	QC	70	90	20	0,66
16.	DISASSEMBLY	80	90	10	0,50
17.	RLS	90	100	10	1,00
18.	SMH	40	80	40	0,66

19.	COME	20	60	40	0,50
20.	VOV	40	70	30	0,50
21.	ZCSA	60	100	40	1,00

Source: Processed primary data (attachment)

Based on the results of the analysis, it was obtained that the average value of learning outcomes *post-tests* significantly different and higher than the average learning outcomes *pre-test*. From the results of the value calculation *N-gain* The value of  $g$  is 0.65. From the criteria *N-gain* which is written in table 3.11, the value of 0.65 falls within the range of  $0.3 \leq g \leq 0.7$ , then there is an increase between the values *pre-test*, *post-test*, and the increase is included in the moderate category. In the increase test *N-Gain* 7 students experienced a significant increase in their learning outcomes. 10 students experienced moderate improvement, and 4 students experienced failure in their improvement. The average score *N-Gain* Overall, the learning outcomes using interactive multimedia assisted by ClassPoint were moderate. It can be concluded that science learning on the Human Respiratory System using interactive multimedia assisted by ClassPoint is effective in learning.

### 3.2 Discussion

The following is a discussion of the assessment results obtained from validation by experts (materials and media), users (teachers), and student responses to the product.

#### Product Eligibility Based on Material Experts

The product feasibility test by material experts was assessed based on four assessment aspects: material suitability, material presentation, material coverage, and language. Validation of interactive multimedia assisted by ClassPoint by a material expert who is a PGSD lecturer at Malang State University.

From the results of the validation by material experts, a total average percentage of 95.8% was obtained regarding the suitability of the aspects of the interactive multimedia instrument assisted by ClassPoint that was developed. Based on the product validity assessment criteria according to (Istanto, 2000) in table 3.7, it states that the percentage of 95.8% is included in the range of 80% - 100% so that it can be interpreted that the interactive multimedia assisted by ClassPoint falls into the valid/feasible category so that the multimedia can be tested in learning after being revised according to suggestions and input from material experts. This is similar to previous research by (Kurniawan & Yatri, 2022) which obtained a percentage of 93.7% with a very feasible category.

There are several indicators of the assessment of the material suitability aspect that must be met, including the suitability of the material with basic competencies, indicators and learning objectives, and the suitability of the material with the correct concept. The material developed should support the achievement of basic competencies and indicators in accordance with competency standards and contain correct facts and concepts. In the aspect of material suitability, a score of 4 (strongly agree) was obtained on the indicator of the suitability of the material content with the correct concept with a percentage of 100%, and a

score of 3 (agree) on the indicator of the accuracy of the material in accordance with Basic Competencies (KD) and the suitability of the material with indicators and learning objectives with each percentage of 75%.

The material presentation aspect assesses the presentation of material in a coherent manner, there are practice questions that can strengthen the understanding of the material about the human respiratory system, and there are images that are adapted to the material discussed to make it easier for students to understand the material. This is in accordance with the opinion of (Istanto, 2000) that images complement spoken and written language in relation to explaining the existence of an object with the ability to visualize something abstract. The validation results related to the assessment of the material presentation aspect of all indicators, namely the presentation of the material is arranged coherently and systematically, the images presented are in accordance with the content of the material discussed, there are practice questions that can strengthen the understanding of the material obtained a score of 4 (strongly agree) with a percentage of 100% each.

The material coverage aspect assesses the scope of material that is adjusted to the level of ability of students in grade V of elementary school, including the knowledge aspect in improving students' knowledge about the human respiratory system in grade V of elementary school, as well as the material presented can increase students' enthusiasm in learning. Students' initial knowledge and skills will be an introduction to understanding higher knowledge. An educator must know the students' initial abilities, so that they can determine the learning flow appropriately according to the students' abilities. The validation results related to the assessment of the material coverage aspect of all indicators, namely the material presented is in accordance with the level of ability of grade V students of elementary school, the material presented covers the knowledge aspect, the material presented can increase students' enthusiasm in learning, obtaining a score of 4 (strongly agree) with a percentage of 100% each.

The linguistic aspect assesses the use of spelling adapted to PUEBI, the use of simple sentences and language adapted to the development of students so that sentences are easy for students to understand and do not give rise to multiple interpretations. This is in accordance with the statement by (Ramadhani & Martinez, 2022) that learning media must pay attention to the use of language, sentence structure and cannot be multiple interpretations in the media so that it makes it easier for users to understand the content of the media. The validation results related to the assessment of the linguistic aspect have met the three indicators, namely the sentences used are simple and clear so that they are easy for students to understand, the language used is appropriate to the level of development of students, the language used is appropriate to the level of development of students obtained a score of 4 (strongly agree) with a percentage of 100% each.

Of the four aspects with 12 indicators, the highest percentage is 100%, while in the aspect of material suitability in the indicator of material accuracy in accordance with Basic Competencies (KD) and material suitability with indicators and learning objectives, the percentage is 75%. Therefore, what can be implied in developing a media is that it must pay attention to the suitability of the material with the curriculum and the correct concept to achieve competency standards in learning and the use of grammar in developing media is one

of the most important things to make it easier for students to understand the material presented.

According to (Miftah, 2013), learning media can be said to be suitable if in developing learning media several principles are taken into account, namely the VISUALS principle, which can be explained as follows: a) *Visible*: Easy to see, b) *Interesting*: Interesting, c) *Simple*: Simple, d) *Useful*: The content is useful/beneficial, e) *Accurate*: True (accountable), f) *Legitimate*: Reasonable/legitimate. ClassPoint interactive multimedia has met the validity criteria for the media, that the ClassPoint application learning media has included the correct principle (*accurate*) and reasonable/legal (*Legitimate*) which presents material in a coherent manner that is in line with KD and indicators by containing correct facts and concepts, containing simple principles (*simple*) and useful (*Useful*) because it is equipped with images adapted to the material being discussed to make it easier for students to understand the material on the human respiratory system, as well as the principle of attraction (*interesting*) namely there are practice questions with various forms of quizzes to attract students' attention and strengthen understanding of the human respiratory system material so that this interactive multimedia assisted by ClassPoint can be declared suitable for use as a learning medium.

### Product Qualification Based on Media Members

Product feasibility testing by media experts is assessed based on five aspects: media appearance, media content, media program, accessibility, and product usability. Interactive multimedia validation is assisted by ClassPoint. by a media expert who is a lecturer in Educational Technology at Malang State University.

From the results of the validation by material experts, a total average percentage of 97.5% was obtained regarding the suitability of the aspects of the interactive multimedia instrument assisted by ClassPoint that was developed. Based on the product validity assessment criteria in table 3.7, it states that the percentage of 97.5% is included in the range of 85.01% - 100.00% so that it can be interpreted that the interactive multimedia assisted by ClassPoint falls into the valid/feasible category so that the multimedia can be tested in learning after being revised according to suggestions and input from material experts. This is similar to previous research by Indrati & Harjono (2022) with POINTTER media which obtained a percentage of 88.3% with a valid/feasible category so that it can be developed and used as a learning medium.

Assessment of media display aspects includes creative media display, suitability of layout on *slide*, type selection accuracy *font*, page navigation, appropriateness of element and illustration placement, appropriateness of images/illustrations to the material, clear buttons, and the attractiveness of the content presented. Creative media displays are assessed based on the use of transitions, animations, *background* and attractive color combinations, the suitability of the slide layout is seen based on the suitability of the placement of images and text that do not cover the content, and the accuracy of the selection of the type *font* seen from the selection of combinations of types, colors *font* with *background* appropriate so that it is easy to read. Learning media must be effective, efficient, and attractive in terms of appearance and content presentation in order to motivate students in learning.

The media display aspect of the indicator is that the media display is made creatively so that it can attract students' attention (transitions, animations, *background*), the suitability of the layout of each slide (text and animation/image) so that it does not cover the content, the page navigation buttons are easy to use, the elements and illustrations in the media do not disturb the user's concentration, the images/illustrations in the media can represent the material presented, and the buttons on the media are clear and easy to read instructions, obtaining a score of 4 (strongly agree) with a percentage of 100% each. Meanwhile, in the indicator of the accuracy of the selection of type, size and color *font* so that the text is easy to read, it gets a score of 3 (agree) with a percentage of 75%, which means that there is one indicator that has not been met. Suggestions and input from the validator are to use the type *font* which is interesting and not stiff.

Assessment of media content aspects includes content presented in an interesting way, titles that are appropriate to the material, content that engages students in using the media, and easy-to-understand user instructions. Content presented in an interesting way can be complemented with illustrations in the form of animation, video, and audio, short and clear titles that are appropriate to the material to be discussed, content that engages students in its use can be complemented with quizzes for students. This is in line with (Dwiyi et al., 2020) that media that combines animation, audio, and video, as well as interactive delivery methods can create direct learning experiences for students and increase student learning motivation. The validation results related to the assessment of the media content aspect in all indicators obtained a score of 4 (strongly agree) with each percentage of 100%.

The assessment of media program aspects includes the availability of user instructions, navigation buttons, and quizzes for students. These three indicators are assessed based on clear navigation buttons tailored to the media's appearance, quizzes with creative and innovative question variations, and the application's practicality, which does not require installation via the device. This is in line with (Suri, 2019), namely that user instructions used in the media should be explained in clear steps to facilitate users. The validation results related to the assessment of media program aspects showed that all indicators received a score of 4 (strongly agree) with each percentage of 100%.

The assessment of user accessibility aspects includes the ease of application does not require installation via the device, ease of application operation for students, the color composition used, makes it easy for users to see the media display. This is in line with the opinion of (Saputro, 2018) that in selecting media must pay attention to clarity and presentation, so as not to cause multiple interpretations and provide convenience for students in using the media. The validation results related to the assessment of user accessibility aspects on the color composition indicators used, make it easy for users to see the media display, the media can be used as independent learning materials, the media can improve students to learn independently via computer/cellphone each get a score of 4 (strongly agree) with each percentage of 100%. Meanwhile, for the indicator of ease of application operation for students gets a score of 3 (agree) with a percentage of 75% meaning there is one indicator that has not been met. Suggestions and input from the validator are to use clear icons and symbols for navigation.

The product usefulness aspects assessed include the usefulness of the media in increasing student enthusiasm, as well as helping to improve student understanding. That

learning media is anything that can convey or channel messages from a source in a planned manner, thus producing a conducive learning environment where the recipient can carry out the learning process effectively and efficiently. The validation results related to the assessment of the material presentation aspect, all indicators obtained a score of 4 (strongly agree) with a percentage of 100% each.

The assessment of the five aspects, three of which are the media content/content aspect, media program, and product usefulness, each indicator obtained the highest percentage, namely 100%, while the media appearance aspect in the indicator of accuracy in selecting type, size and color, *font* and the accessibility aspect in the application ease of operation indicator obtained a percentage of 75%. Therefore, what can be implied in developing a media is that we must pay attention to the media display design such as the appropriateness of the background selection, color combination, and selection of *font* appropriate and clear navigation buttons so that the media used in learning can attract students' attention and motivate students to participate in learning.

Learning media can be said to be valid according to Sanjaya (Untari, 2017), that learning media must have several functions including (a) communicative function, with attractive packaging of material and use of correct grammar to help in delivering the material, (b) motivational function, attractive media display and packaging can increase student motivation and build a character of curiosity, (c) perception equalization function, the material contained in the media is adjusted to the learning material in basic competencies, (d) individualistic function, learning media is developed and adjusted for learning purposes to be used individually or guided. Interactive multimedia assisted by ClassPoint has included several criteria for the validity of the media, that interactive multimedia is assisted by ClassPoint contains a communicative function, namely having a media display and content/content presented in an attractive manner with communicative grammar, has a motivational function with the use of transitions, animations, backgrounds and appropriate color combinations and is equipped with illustrations in the form of attractive animations, as well as quizzes with the creation of creative and innovative variations of questions so that the media, and contains an individualistic function, namely presenting content that involves students in using the media individually, so that interactive multimedia assisted by ClassPoint declared valid.

### **The Practicality of Interactive Multimedia Assisted by ClassPoint on the Human Respiratory System Material in Grade V Elementary School Based on Students**

Results of the practical response to interactive multimedia assisted by ClassPoint obtained from student response questionnaires that have been distributed after conducting product trials. The assessment of product practicality is based on aspects of attractiveness in terms of media appearance, content presentation, material presentation, appeal, and student responses in using the media. Student response indicators related to the assessment of product attractiveness are based on media appearance that is attractive to students that can increase student enthusiasm in learning, content and material presentation that creates enjoyable learning and activates student responses, appeal and student responses to continue wanting to use interactive multimedia assisted by ClassPoint.

Based on the results of individual trials that have been conducted, data on the level of product practicality is analyzed using a standard scale. Of the 10 indicators in the individual trial, students who answered strongly agree obtained a total score of 25 and students who answered agree obtained a total score of 5. Meanwhile, the total percentage result was 95.8%. Based on the criteria for the level of product practicality, the total percentage of the trial results fell into the range of 85.01% - 100.00%, which means it fell into the practical category so that the media was practical for students and could be used after revision. For small group trials, the data on the level of product practicality was analyzed using a *scalenormal*. Of the 10 indicators in the individual trial, students who answered strongly agree obtained a total score of 49, students who answered agree obtained a total score of 10, and students who answered less agree obtained a score of 1. While the total percentage result was 95%. Based on the criteria for the level of product practicality, the total percentage of the trial results fell into the range of 85.01% - 100.00% which means it fell into the practical category so that the media was practical for students and could be used after revision. Meanwhile, for the large group trial, the data on the level of product practicality was analyzed using a regular scale. Of the 10 indicators in the individual trial, students who answered strongly agree obtained a total score of 146, students who answered agree obtained a total score of 55, students who answered less agree obtained a total score of 8, and students who answered disagree obtained a total score of 1. While the total percentage result was 91%. Based on the criteria for the level of product practicality the total percentage of the trial results fell into the range of 85.01% - 100.00% which means it fell into the practical category so that the media is practical for students and can be used after revision. Which obtained 87.5% which is classified as very good so that the media can be developed and used as a learning medium.

The assessment of the product's practicality level regarding the aspect of attractiveness includes interactive multimedia assisted by ClassPoint creating enjoyable learning, varied practice questions, science learning being interesting and enjoyable, and the appearance of interactive multimedia. These four indicators are assessed based on the practicality of the media reviewed from the three indicators so that the media can be declared practical in terms of material suitability. That media development must be carried out in accordance with the following principles: first, the development of learning media should consider the maximum use of elements, namely text, images, animation, and audio-visual elements. Second, namely the principle of material truth and presentation attractiveness. The material presented must have correct substance with correct concepts and up-to-date sources.

The assessment of material presentation is reviewed based on the level of practicality of the media, including the knowledge aspect in improving students' knowledge of the human respiratory system in fifth grade elementary school, as well as the material being supplemented with clear illustrations. That states that through science learning, three types of learning outcomes can be developed, namely knowledge, scientific attitudes, and process skills.

The user-friendliness aspect assessment includes the practicality of the media in operating ClassPoint for students because it is equipped with clear usage instructions, ease of access and operation in ClassPoint, and makes it easier for students to carry out science

learning. This is in line with (Rohani, 2019) opinion that learning media that is easy to use will provide a positive response to the learning carried out.

### **Increasing Student Enthusiasm in Learning through Interactive Multimedia Assisted by ClassPoint Material on the Human Respiratory System for Grade V Elementary School**

The results of the response to increased student enthusiasm in learning through interactive multimedia assisted by ClassPoint The data were obtained from student response questionnaires distributed after the product trial. Based on the results of the trial, data regarding students' enthusiastic responses to the media were analyzed using a standardized scale. so that in the individual group trial, the total percentage obtained was 95.8%. In the small group trial, the total percentage obtained was 91.6%. Meanwhile, for the large group trial, the total percentage obtained was 96.1%. Based on the response results criteria for strengthening students' independent character the average achievement from the two trials was in the range of 85.01% - 100.00% with an enthusiastic category so that the use of interactive multimedia assisted by ClassPoint It was stated that it could increase student enthusiasm. This is similar to previous research conducted by Wiryawan (2023), which obtained a percentage of 100%, which can be interpreted as showing student enthusiasm in using media.

(Afdhal & Sugiman, 2017) argues that enthusiasm for learning is a student's attitude to be enthusiastic and more passionate and have a great interest in participating in learning activities. Interactive multimedia assisted by ClassPoint can increase student enthusiasm because through this media, indicators of student enthusiasm in learning have emerged, including students being more active in participating in learning, students being more enthusiastic and responsive in responding to teachers, students being involved in using media, students being enthusiastic in using media in other learning, and eliciting active student responses in participating in learning.

#### **4. Conclusion**

The results of interactive multimedia development assisted by ClassPoint To increase students' enthusiasm for the human respiratory system material for grade V elementary school, it can be explained from the validation results that an average of 95.8% was obtained according to material experts, and 97.5% according to media experts, which are categorized as valid/feasible. The results of student responses from the three trials related to the practicality aspect obtained an average of 93.9%, which is categorized as practical, and 95.9% for the enthusiasm aspect, which is categorized as enthusiastic. Student learning outcomes were obtained from providing *pre-test* And *post-test* to students. Based on the results of calculating the value using the formula *N-gain*, the *g* value obtained is 0.65. From the criteria *N-gain*, the value of 0.65 falls within the range of  $0.3 \leq g \leq 0.7$ , so there is an increase between the values *pre-test* And *post-test* and the improvement is included in the moderate category. Thus, it can be concluded that this study has created interactive multimedia that is valid/feasible according to experts, practical according to students, effective, and able to increase student enthusiasm. Therefore, interactive multimedia assisted by ClassPoint on the human respiratory system material is considered suitable for use in learning.

#### **References**

- Afdhal, M., & Sugiman, S. (2017). Pengembangan perangkat pembelajaran berbasis reciprocal teaching berorientasi pada antusiasme dan kemampuan berpikir kritis siswa. *PYTHAGORAS: Jurnal Matematika Dan Pendidikan Matematika*, 12(2), 173–186.
- Dwiqui, G. C. S., Sudatha, I. G. W., & Sukmana, A. I. W. I. Y. (2020). Pengembangan multimedia pembelajaran interaktif mata pelajaran IPA untuk siswa SD kelas V. *Jurnal Edutech Undiksha*, 8(2), 33–48.
- Effendi, D., & Wahidy, A. (2019). Pemanfaatan teknologi dalam proses pembelajaran menuju pembelajaran abad 21. *Prosiding Seminar Nasional Program Pascasarjana Universitas PGRI Palembang*.  
<https://jurnal.univpgri-palembang.ac.id/index.php/Prosidingpps/article/view/2977>
- Istanto, F. H. (2000). Gambar sebagai alat komunikasi visual. *Jurnal Desain Komunikasi Visual Nirmana*, 2(1).  
<http://download.garuda.kemdikbud.go.id/article.php?article=1347966&val=354&title=GAMBAR%20SEBAGAI%20ALAT%20KOMUNIKASI%20VISUAL>
- Kurniawan, N. D., & Yatri, I. (2022). Kuis Interaktif Menggunakan Aplikasi Classpoint pada Materi Indahnya Keragaman di Negeriku untuk Siswa Kelas IV Sekolah Dasar. *Jurnal Ilmiah Pendidikan Profesi Guru*, 5(1), 86–95.
- Mardhiyah, R. H., Aldriani, S. N. F., Chitta, F., & Zulfikar, M. R. (2021). Pentingnya keterampilan belajar di abad 21 sebagai tuntutan dalam pengembangan sumber daya manusia. *Lectura: Jurnal Pendidikan*, 12(1), 29–40.
- Miftah, M. (2013). Fungsi, dan peran media pembelajaran sebagai upaya peningkatan kemampuan belajar siswa. *Kwangsan: Jurnal Teknologi Pendidikan*, 1(2), 95–105.
- Prasetyo, F. (2018). Pengembangan Multimedia Interaktif Berbasis Powerpoint 2016 Pada Subtema 1 Manusia Dan Lingkungan Di Kelas V Sekolah Dasar. *Pengembangan Multimedia Interaktif Berbasis Powerpoint 2016 Pada Subtema 1 Manusia Dan Lingkungan Di Kelas V Sekolah Dasar*.  
[https://repository.unja.ac.id/4582/1/ARTIKEL%20ILMIAH\\_FENGKI%20PRASETYO\\_A1D114001.pdf](https://repository.unja.ac.id/4582/1/ARTIKEL%20ILMIAH_FENGKI%20PRASETYO_A1D114001.pdf)
- Ramadhani, F. E., & Martinez, D. (2022). Telaah Buku Teks IPA Kurikulum K-13 dan KTSP Ditinjau dari Kelayakan Isi, Kebahasaan, dan Sajian. *Jurnal Tadris IPA Indonesia*, 2(3), 305–313.
- RIRIN, D. (2021). *PEGEMBANGAN MULTIMEDIA INTERAKTIF BERBANTUAN MICROSOFT POWERPOINT 2016 PADA KELAS IV SD/MI* [PhD Thesis, UNIVERSITAS ISLAM NEGERI RADEN INTAN LAMPUNG].  
<http://repository.radenintan.ac.id/14338/2/SKRIPSI%20%20BAB%201%262.pdf>
- Rohani, R. (2019). *Media Pembelajaran* [Lainnya]. Fakultas Ilmu Tarbiyah Dan Keguruan Universitas Islam Negeri Sumatera Utara. <http://repository.uinsu.ac.id/8503/>

## Proceedings Series of Educational Studies

- Saputro, M. I. (2018). *Pengembangan media powerpoint interaktif tema Organ Gerak Hewan dan Manusia subtema Manusia dan Lingkungan kelas V SDN kauman 1 Kota Malang* [PhD Thesis, Universitas Negeri Malang]. <https://repository.um.ac.id/6793/>
- Sugiyono, D. (2013). *Metode penelitian pendidikan pendekatan kuantitatif, kualitatif dan R&D*. [https://digilib.unigres.ac.id/index.php?p=show\\_detail&id=43](https://digilib.unigres.ac.id/index.php?p=show_detail&id=43)
- Sundari, D. H., Iskandar, I., & Muhlis, M. (2021). Penerapan media presentasi classpoint untuk meningkatkan hasil belajar siswa pada mata pelajaran Bahasa Inggris MAN 19 Jakarta. *Jurnal Pemikiran Dan Pengembangan Pembelajaran*, 3(3), 1–9.
- Suri, F. (2019). *Pengembangan Media Pembelajaran Power Point Interaktif Pada Materi Pokok Struktur Dan Fungsi Organ Pada Sistem Ekskresi Untuk Siswa Kelas Xi Sma/ma Tahun Ajaran 2018/2019* [PhD Thesis, Universitas Islam Riau]. <https://repository.uir.ac.id/7261/>
- Untari, E. (2017). Problematika dan pemanfaatan media pembelajaran sekolah dasar di kota Blitar. *Jurnal Pendidikan Dasar Perkhasa: Jurnal Penelitian Pendidikan Dasar*, 3(1), 259–270.
- Untari, E. (2022). Media Ipa Berbasis Android Untuk Mahasiswa Pgsd. *Wahana Sekolah Dasar*, 30(1), 1–10.