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The development of lectora inspires media in learning mathematics fractions material

Asih Mardati¹, Lina Annisa², Yeyen Febrilia³, Desfa Yusmaliana⁴¹Primary Teacher Education, Ahmad Dahlan University, Yogyakarta 55166, Indonesia²Teacher Profesional Education Programe, Yogyakarta State University, Yogyakarta 55281, Indonesia³Doktoral Programe of Primary Education, Yogyakarta State University, Yogyakarta 55281, Indonesia⁴Sultan Hassanal Bolkiah Institute of Education, Universiti Brunei Darussalam, Gadong BE1410, Brunei Darussalam¹*asihmardati@pgsd.uad.ac.id, ²ppg.linaannisa98528@program.belajar.id,³yeyen0026fipp.2023@student.uny.ac.id, ⁴22h1603@ubd.edu.bn

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*Corresponding author

Abstract:

This research aims to consider pointed to decide the steps in creating Lectora Inspire learning media and its possibility for arithmetic learning of divisions for third-grade basic school understudies. The investigation was investigation and improvement. The advancement forms concerned the improvement show proposed by Thiagarajan's 4D. The 4D development model included the stages of (1) Define, (2) Design, (3) Development, and (4) Dissemination. The information collection rebellious utilized were master appraisal sheets, instructor evaluation sheets, and understudy appraisal sheets. The result about appeared that Lectora inspire media gotten a rate of 77.3% within the "great" category by media specialists, 88% within the "outstanding" category by material specialists, and 86.6% within the "extraordinary" category by learning specialists. The normal rate from specialists was 83.96%. The result of the teacher's appraisal gotten a rate of 96% within the "exceptional" category. The result of the restricted trial evaluation gotten a rate of 100% within the "exceptional" category. This information demonstrated that the Lectora inspire media for arithmetic learning of divisions for third-grade understudies of the rudimentary school had a fabulous and doable quality. These data indicated that the *Lectora Inspire* media for mathematics learning of fractions for third-grade students of elementary school had an excellent quality and was feasible.

Keywords: Elementary School; Fraction; Lectora; Mathematics Learning; Media**How to Cite:** Mardati, A., Annisa, L., Febrilia, Y., & Yusmaliana, D. (2024). The development of lectora inspires media in learning mathematics fractions material. *Alifmatika: Jurnal Pendidikan dan Pembelajaran Matematika*, 6(1), 24-41. <https://doi.org/10.35316/alifmatika.2024.v6i1.24-41>**Introduction**

Instruction could be a essential human require that plays a imperative part in life. Instruction is one of the variables in making quality human assets (Albani, 2019;



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Hazimah & Dewi, 2021; Khairiyah & Dewinda, 2022; Rusydi Syadzili & Zulfas, 2022). Usually in line with the saying that quality instruction will deliver quality individuals to development and progress a country's quality (Dhaniawaty et al., 2023; Martin & Ertzberger, 2013; Safitri et al., 2022; Suciati et al., 2023; Widodo et al., 2021). To achieve these educational goals, teachers and students must play an active role in realizing creative, innovative and technology-literate learning (D. R. N. Jannah & Atmojo, 2022; Rahayu, R., Iskandar, S., & Kurniawan, 2023; Ratnawati & Gumiandari, 2021). The utilization of innovation within Mechanical Insurgency 4.0 cannot be isolated from human life, counting instruction. (Abrori et al., 2023; Prihandini et al., 2023a). Improving progressively advanced innovation can encourage learning (Indartiwi et al., 2020; Maulidah, 2019; Prihandini et al., 2023b; Rachmawati et al., 2021). One of them is in mathematics learning.

Science is one of the subjects instructed within the Indonesian instruction educational modules. Arithmetic subjects are basic in instruction to prepare demeanors and thought patterns (Harmini et al., 2021; Nurhayati & Chotimah, 2020). The capacity to think coherently, methodically, fundamentally, agreeably, and imaginatively, and fathom issues confronted in life (Fadilah et al., 2021; Liliana et al., 2020; Roca & Cabrera, 2021; Sepúlveda & Ortega, 2021; Suryaningrat et al., 2021; Susilawati & Nuraida, 2021).

Fraction is an correct science with theoretical (Astuti & Jana, 2022; Harmini et al., 2021; Nurhayati & Chotimah, 2020). Separated from that, fraction subjects are too considered troublesome and unsavory. This can be strengthened by the result about of interviews conducted at SD Negeri 2 Parikesit lesson III, which appeared that fraction is considered a complex subject, one of which is fraction. The reality often affirms thisat numerous understudies encounter troubles in understanding the fraction, and this result about in moo science learning accomplishment (Aliyah & Fanirin, 2022; Ningsih et al., 2022; Nulhakim et al., 2022; Puspaningtyas & Dewi, 2020; Rohmatulloh et al., 2022). Typically upheld by information from the Patterns Science and Science Think about (TIMSS) in 2015 concerning expanding science and science learning; Indonesia is at a moo level and possesses 44th out of 49 countries (Mardhiyah et al., 2023a; Yanuarto & Iqbal, 2022). One of the reasons is that the learning strategies utilized have to be more significant to the students' conditions.

The customary strategy is addresses the teacher's favorite strategy of conveying material in arithmetic learning. Indeed, even though this strategy is teacher-centered, it is regarded as unseemly utilized (Fatmawati, 2020). On the other hand, with the address strategy, understudies ended up acclimated to memorizing unique scientific concepts (Sari et al., 2018). The learning that takes place gets less significant (Rafiah, 2020). Understudies encounter troubles when confronted with modern problems (Govorova et al., 2023; Isnawan et al., 2023; Mirete et al., 2023; Novferma; Romundza, 2023). Subsequently, middle-person media are required to make it less demanding for instructors to communicate the material and make it simpler for understudies to get it.

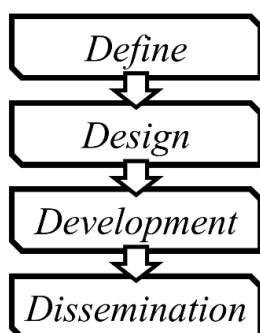
Learning media incorporates an imperative part of the learning handle. Learning media interfaces instructors and understudies in channeling messages so that learning gets to be viable and productive (Ariani Finda Yuniarti et al., 2022; Lukman et al., 2022; Mardhiyah et al., 2023b). Learning media is essential for instructors in learning preparation since it can make it less demanding for teachers to deliver material. One of the gadgets that can be created is Lectora Inspire. Lectora Inspire may be a computer program Trivantis Enterprise created as a learning medium (Nisa & Sylvia, 2021; Susilawati & Nuraida, 2021).

Lectora Inspire has substance containing content, pictures, sound, liveliness, video, recreations, and assessments, making it less demanding for instructors to form intuitive learning media (Furi, 2022; Lina Rihatul Hima & Samidjo, 2019; Muttaqin, Siswono, et al., 2020; Wijaya et al., 2018; Yulianto & Juniawan, 2022; Zuhriya, 2019). Lectora Inspire can be utilized as an elective medium by instructors to educate students and teach them exercises, particularly mathematics. It aligns with previous research (Latifah et al., 2020) stating that interactive development using Lectora Inspire familiarizes HOTS-based learning. Research (Atandau et al., 2021) notes the development of Lectora Inspire to improve understanding of the main elements of chemistry based on ethnoscience for class XII high school students. Research (Muttaqin, Tataq, et al., 2020) states that the development of Lectora Inspire is to improve the critical thinking abilities of class V students. Research (Ristiani et al., 2020) says that the development of Lectora Inspire is to foster students' creative character. Based on the research above, developing a Lectora that more specifically discusses mathematics learning regarding fractions is necessary. Apart from that, the needs of elementary schools in Wonosobo, most of which still need to get Lectora Inspire learning media in schools.S

Based on this background, innovations are needed in learning Lectora Inspire interactive media in mathematics learning fraction material for class III elementary school. This research aims to determine the steps for the development and feasibility of the Lectora Inspire learning media in mathematics learning fraction material for class III elementary school. It will contribute to helping students understand mathematics well. Apart from that, it also acts as a supporting medium for teachers and schools in improving the quality of learning.

Research Methods

The inquire about employment an ask about and advancement or (Inquire about and advancement) utilizing the 4D improvement show communicated by Thiagarajan (Sugiyono, 2017), which goes through 4 research stages, namely 1) Define, 2) Design, 3) Development, and 4) Dissemination. The product produced in this research is Lectora Inspire learning media for learning mathematics with fractions in class III elementary school.



Picture 1. Thiagarajan 4D Development Model

The assessment criteria use a measurement scale based on a Likert scale for media experts, material experts, learning experts, and teachers. The assessment criteria were used on a 1-5 Likert scale (Sugiyono, 2017, pp. 165-166) about 1 to very bad, 2 to bad, 3

to enough, 4 to sound, and 5 to very good. Validator of Media is a lecturer specializing in media, learning, and language from PGSD of Ahmad Dahlan University.

Data obtained from the assessment sheet will be analyzed to determine the quality and suitability of the media. The formula for calculating the percentage of media suitability (Riduwan, 2013, p. 40) is as follows.

$$\text{Percentage} = \frac{\sum s}{S_{max}} \times 100\%$$

Information:

$\sum s$ = Total Score Obtained

S_{max} = Maximum Score

The data processing results are then used as a reference to determine the suitability of the media using the scale (Saski, 2021) as follows.

Table 2. Media Appropriateness Scale

Percentage	Criteria
81% – 100%	Perfect
61% – 80%	Good
41% – 60%	Enough
21% – 40%	Not Good
0% – 20%	Very Not Good

The Lectora Inspire media created in this investigation decides the evaluation by the least rate of 70%, which is within the fabulous category. Thus, if the normal of master appraisals, instructor reactions, and understudy reactions appear at a last rate of 70% or more within the excellent category, this media improvement is categorized as quality and reasonable for utilization within the learning handle.

Results and Discussions

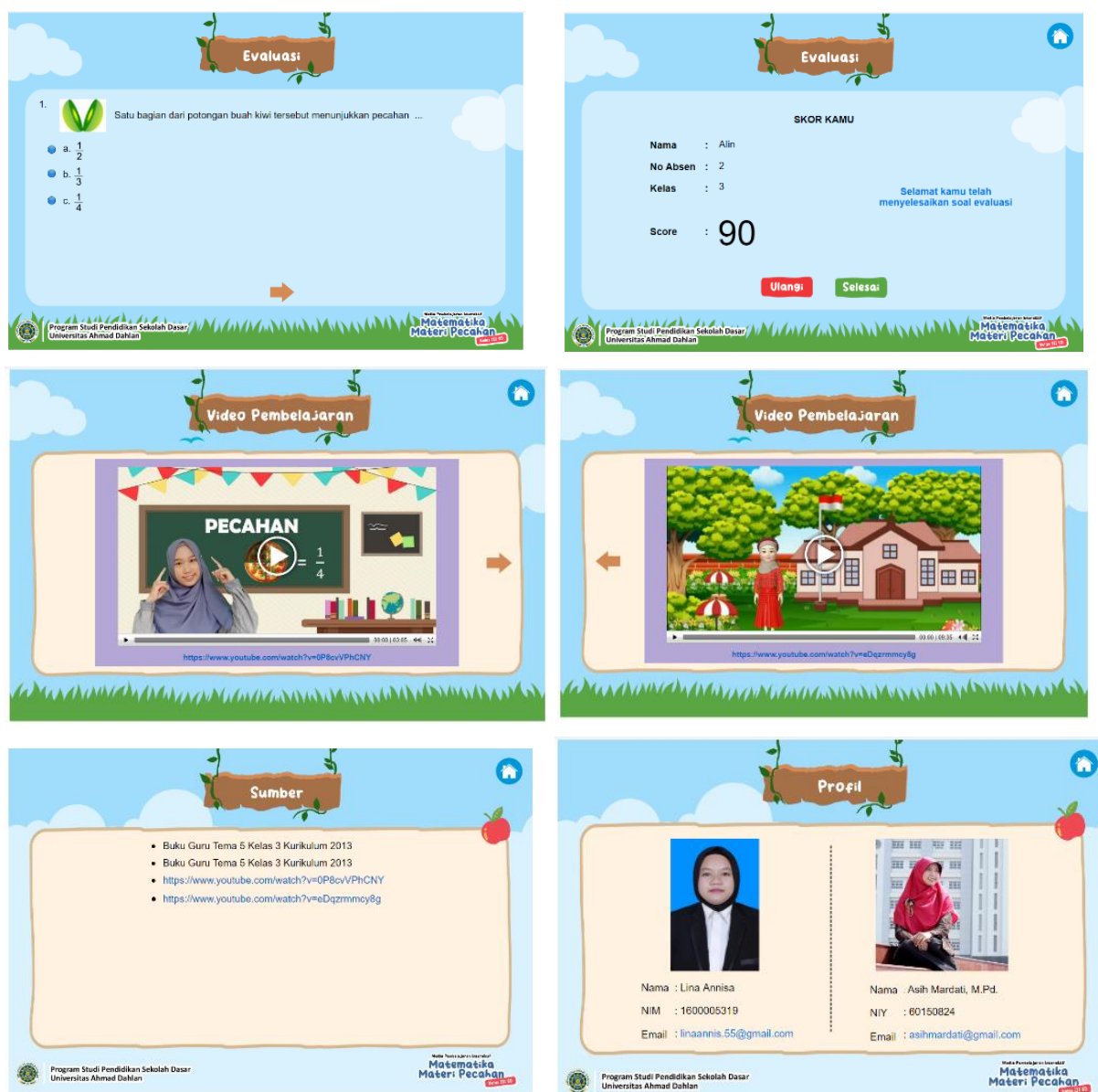
The advancement of Lectora Inspire media for learning science with division material for lesson III primary schools has been completed. Lectora Inspire media improvement employments the 4D advancement demonstrated proposed by Thiagarajan (Sugiyono, 2017). The 4D improvement demonstration goes through 4 stages, specifically 1) Characterize, 2) Plan, 3) Advancement, and 4) Spread. The taking after clarifies the steps taken in each arrangement. To begin with, the Characterize arrangement. At this organization, definitions are carried out within the shape of starting investigation, understudy investigation, concept examination, errand examination, and learning objective investigation. The result of this organization is various information related to the desires of the media to be created.

Moment, the plan is arranged. In this arrangement, the plan is a starting depiction of the learning media that will be created. The steps taken in this arrangement are media determination, arrange determination, and starting plan. The result of this arrange is to

get an introductory picture of the advancement of Lectora Inspire media. Third is the improvement arrangement. At this time, Lectora Inspire-based learning media was created. The media improvement organization includes expert validation and educator and understudy evaluations. The taking after may be a show of the Lectora Inspire media on science learning material for divisions for review III primary school that has been created.



The development of lectora inspires media in learning....



Picture 3. Lectora Inspire Media Display

The Lectora Inspire media that has been developed is then validated by experts, teachers, and students. The following are the results of expert validation, teacher responses, and student responses in limited trials of Lectora Inspire media.

Table 3. Expert Validation Results

No	Test Data	Percentage	Criteria
1.	Media Expert	77,3%	Good
2.	Materials Expert	88%	Perfect
3.	Learning Expert	86,6%	Perfect
Amount		251,9%	
Grade Average		83,96%	
Overall Category Outstanding		Perfect	

Table 4. Results of Teacher and Student Responses

No	Test Data	Percentage	Criteria
1.	Teacher	96%	Perfect
2.	Students	100%	Perfect

From the data above, it can be seen that Lectora Inspire media received an assessment from media experts with a percentage of 77.3% and was in the excellent category. The material expert assessment received 88% in the outstanding category. The learning expert's assessment received 86.6% in the exceptional category. The teacher's response received 96% in the extraordinary category. Student responses in limited trials obtained a percentage of 100% in the outstanding category. Fourth is the Spread arrangement. At this organization, the media that has been created is dispersed. The arrangement was done by disseminating Android-based Lectora Inspire media to course III primary school instructor working bunches (KKG) within the Kejajar sub-district and the PGRI gather within the Kejajar sub-district.

Based on the investigation and advancement result, it is expressed that improvement was carried out within the 4D stages. It was chosen because 4D could be an arrangement that has the advantage that deciding particular learning destinations will include material examination and assignment examination, so it can make it less demanding to portray common to specific learning objectives (Ferdianto & Setiyani, 2018; Ikhbal & Musril, 2020; Oktarisma, 2019). Usually in line with investigations (Ikhbal & Musril, 2020; MASYRUFIN, 2022; Novera et al., 2022) that 4D makes it simple to execute Lectora Inspire Media improvement steps in arithmetic learning division material for lesson III rudimentary school.

Lectora Inspire Media for learning mathematics material on fractions for class III elementary school is a technology-based learning media that presents fraction material for class III elementary school. This learning media is suitable for use, considering validation from validators, teacher responses, and student responses. It aligns with research (Hafifi & Farahiba, 2023; Khasanah, 2019; Lestari, 2021) that the Lectora Inspire Media developed was also stated to be very good and suitable for learning. The advantage is that the Lectora Inspire Media in learning mathematics with fraction material for class III elementary school focuses more on learning mathematics.

The advantage of Lectora Inspire Media in learning science material on divisions for course III rudimentary school is that the show is made as appealing as conceivable with a blue foundation show with information that makes it simpler to utilize. It is often in line with the inquiry about (A. R. Jannah et al., 2023; Lina Rihatul Hima & Samidjo, 2019; Mahfudhah et al., 2022; Mahmudah et al., 2018; Rostika et al., 2020; Syamsuddin et al., 2023; Umayah et al., 2023; Yulianto & Juniawan, 2022) which states that Lectora Energize media has focused of intrigued, to be particular Media Learning must be bundled in an energizing and fun way so that it can draw in students' thought to continue learning. Understudies finished up energetic in understanding the texture. Media Lectora is a simple media to utilize with a menu that understudies and instructors can choose from, and it goes with informational for utilization. It is adjusted with the investigation (Nurfadhillah et al., 2021), which states that great media is open to all bunches. Another thing states that the media is simple to utilize since layouts are given that clients can select from (Alfian et al., 2022; Rahmatullah et al., 2020). Separated from that (Putra, 2021), media that's easy to use is media that's simple to preserve.

Lectora Inspire arithmetic media can be utilized anyplace and anytime since this media is made in Android form (Dwi Susanti, 2021; Wulandari & Nugroho, 2020). Separated from that, this media meets 21st-century advancements coordinated with innovation. It aligns with the investigation (Khasanah, 2019; Lestari, 2021), which states that one way to meet the wants and increase competence in the 21st century is by using digital-based learning media. Typically backed by the conclusion (Husna et al., 2022; Mufaridah et al., 2021; Purnamasari et al., 2022; Saputri & Herman, 2022; Zakiyah et al., 2022) expressing that innovation integration must be carried out in learning.

Lectora Inspire media presents material that illustrates concrete objects within the form of divisions to make it simpler for students to get the theoretical concept of divisions. Usually in line with investigations (Bani & Kedang, 2021; Elwijaya et al., 2021; Laurens et al., 2018; Lubis, 2023; Minase et al., 2019; Suhada et al., 2020) that produce it less demanding for understudies to get it. So learning or material based on objects or something concrete is required. It can be backed by Piaget's hypothesis (Anditiasari & Dewi, 2021b, 2021a; Rahmaniar et al., 2021) that the characteristics of course III understudies are at the concrete operational level with an age run of 7-11 a long time. The concrete operational level has the characteristic that understudies can effortlessly get it coherently and physically (Abdi et al., 2011; Fadiana & Andriani, 2021; Juwantara, 2019). The Lectora Inspire learning media material was created alluding to the 2013 educational programs but is exceptionally pertinent for utilization in all educational module changes. It adjusts with inquiries about (Adeo & Manane, 2022; Setyorini & Carolina, 2022), which included improvements alluding to the 2013 educational programs learning. Besides, it states (Ulfah et al., 2023) that the past educational programs learning media can be utilized in a few ways to back talking about the same material.

Conclusions and Suggestions

The Lectora Inspire media for learning mathematics fraction material for class III elementary school was developed using the 4D development model. There are four stages of development, including the Define, Design, Development, and Dissemination stages. The assessment results by media experts received 77.3% in the excellent category. The material expert assessment received 88% in the outstanding category. The learning expert's assessment received 86.6% in the exceptional category. The teacher's response received 96% in the excellent category. Student responses in limited trials obtained a percentage of 100% in the extraordinary category. Based on the percentage produced, the Lectora Inspire media for learning mathematics with fraction material can be of excellent quality and suitable for use.

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