



## Development of Elementary Linear Algebra Learning Video Media in Islamic Context

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### Abstract

The development of online learning is increasingly rapid, especially during the Covid-19 pandemic which demands an innovation in the education system. However, this development is not accompanied by the availability of innovative learning media. Therefore, this study aims to develop an elementary linear algebra learning video media in Islamic context. This research type is research and development using a 4D development model consisting of 4 stages, namely define, design, develop, and disseminate. The subjects of this research trial were students of the Department of Mathematics Education, class of 2020 B, Faculty of Tarbiyah and Teacher Training at UIN Alauddin Makassar. The research data were obtained using questionnaires, observations, and learning outcomes tests. The data is processed through the analysis of validity, practicality, and effectiveness. The results showed that the video media that had been developed had met the criteria of being valid, practical, and effective. Thus, this learning video media can be a solution to better support the implementation of online learning.

### Abstrak

Perkembangan pembelajaran daring semakin pesat khususnya di masa Pandemi Covid-19 yang menuntut adanya inovasi sistem pendidikan. Namun, perkembangan ini tidak diiringi dengan ketersediaan media pembelajaran yang inovatif. Karena itu, penelitian ini bertujuan untuk mengembangkan media video pembelajaran aljabar linear elementer dalam konteks Islam. Jenis penelitian ini adalah penelitian dan pengembangan (research and development) dengan menggunakan model pengembangan 4D yang terdiri dari 4 tahapan yaitu define, design, develop, dan disseminate. Subjek uji coba penelitian ini adalah mahasiswa Jurusan Pendidikan Matematika, angkatan 2020 kelas B, Fakultas Tarbiyah dan Keguruan UIN Alauddin Makassar. Data penelitian diperoleh dengan menggunakan angket, observasi, dan tes hasil belajar. Data diolah melalui analisis kevalidan, kepraktisan, dan keefektifan. Hasil penelitian menunjukkan bahwa media video pembelajaran aljabar linear elementer dalam konteks Islam yang dikembangkan telah memenuhi kriteria valid, praktis, dan efektif. Dengan demikian, media video pembelajaran ini dapat menjadi solusi untuk mendukung terlaksananya pembelajaran daring dengan lebih baik.

**Keywords:** Research and Development; Elementary Linear Algebra; Islamic Context.

## INTRODUCTION

The Covid-19 pandemic is a health crisis that is currently sweeping the world. Corona virus infection or Covid-19 is caused by Corona Virus, which is a group of viruses that infect the respiratory system. The Covid-19 pandemic that has hit many countries, including Indonesia, has changed the way people behave in their daily activities. The world of education is no exception, which has also been affected by the spread of the corona virus.

Universities are one of the institutions affected by the spread of Covid-19 after preschool educational institutions, elementary schools, junior high schools, and high schools. Educational institutions at all levels in Indonesia, both under the auspices of the Ministry of Education, Culture, Research and Technology and those under the auspices of the Ministry of Religious Affairs of the Republic of Indonesia, were shocked by the negative impact that required students to study online from home and the suspension of face-to-face learning to decide the spread of the corona virus (Hasanah, Lestari, Rahman, & Danil, 2020).

Learning without face-to-face or online learning requires the help of technological media. This is in line with the industrial revolution 4.0 which demands the use of digital technology in education. In online learning, not only material is delivered via internet media, but assignments and other questions are sent through social media applications (Tarida & Indriyan, 2020). The importance of using digital technology in life has changed the way we communicate and the way the brain works quickly and deeply (Mancaniello, 2020).

Online learning or E-Learning is one of the newest learning models in the field of education that can overcome space

limitations and become a weakness of traditional learning models (Hasan, 2020). However, Friantini and Winata (2019) revealed that a change in learning from face-to-face learning to online learning will affect students' interest in participating in the learning process. Even though interest is the main motivational tool to stimulate students' enthusiasm for learning within a certain period. The same thing was said by Jamil and Aprilisanda (2020) that the impact of the lack of an online learning system can affect student interest in the courses taught during the pandemic. Jamil and Aprilisanda (2020) further stated that interest will affect the grades that students get in the courses being taught. Therefore, there is a need for learning innovations to make online learning carried out from home more interactive and fun.

Elementary linear algebra is one of the subjects taught at the Department of Mathematics Education, Faculty of Tarbiyah and Teacher Training, Alauddin State Islamic University, Makassar. The materials discussed in this course are systems of linear equations, matrices, determinants, vectors in 2 and 3 dimensional spaces, general vector spaces, and Euclidean vector spaces. According to Ruswana (2019), some of the material in elementary linear algebra lectures was initially given at the previous education level, so that students are expected to be able to obtain satisfactory learning outcomes in this course.

Based on the results of observations made on students of the Department of Mathematics Education, Faculty of Tarbiyah and Teacher Training, Alauddin State Islamic University (UIN) Makassar who had taken elementary linear algebra courses by giving questionnaires via Google Form, 31 students were obtained who gave responses related to elementary linear algebra courses. The results of the questionnaire show that most of the

respondents, namely 71% or 22 students, stated that they had problems while attending elementary linear algebra courses. Based on these observations, 12 students stated that the source of learning materials was still lacking, 15 students stated that there was no interesting media, and 12 students thought the material was difficult to understand. This is in line with what was stated by Rahmi, Mardiyah, dan Juwita (2017) that the elementary linear algebra material is theoretical and the scope of the material is wide, making it difficult for students to understand.

Many things can be done to increase student interest and learning outcomes, especially in elementary linear algebra courses. One of them is through learning videos. This is supported by a statement expressed by Viviantini (2015) that learning using video media will have a significant influence on the interests and learning outcomes of students. Sa'adah, Pramono, and Suharso (2017) also revealed that the use of learning video media can help facilitate the learning process, because students can first see and absorb material through videos so that lecturers do not need to continue to explain the material and the learning process takes place more interestingly, effectively, and efficiently.

Based on the results of research conducted by Mufidah, Sulasteri, Majid, dan Mattoliang (2019) revealed that there are several factors that influence the understanding of mathematical concepts of students of UIN Alauddin Makassar class of 2016 in elementary linear algebra subjects, namely: lack of interest in learning, lack of focus in learning, low motivation and concentration in learning, low memory skills, and lack of self-confidence. Furthermore, Rahmi, Mardiyah, and Juwita (2017) revealed that elementary linear algebra material is theoretical

and the scope of the material is wide, making it difficult for students to understand, so lecture materials are needed so that lecture goals are achieved, namely a lecture material that can guide and train students to understand the material presented.

Apart from this, Alauddin State Islamic University Makassar as an Islamic university, carries out one of the missions, namely "Organizing educational, research, and community service activities that reflect the ability to integrate the values of Islamic teachings with science, technology, and art". science and technology". According to Pratiwi (2019) that by integrating Islamic values in mathematics learning can lead students to achieve knowledge and application of Islamic values.

Based on the explanation above, the researcher conducted research on the Development of Linear Elementary Algebra Learning Media in Islamic Context. The researcher hopes that the development of this learning media can help students to increase their interest and learning outcomes during the online learning process in elementary linear algebra course.

## METHOD

This type of research is research and development. The subjects of this research trial were students of the Department of Mathematics Education, class of 2020 class B, Faculty of Tarbiyah and Teacher Training at UIN Alauddin Makassar. The research data were obtained using questionnaires, observations, and learning outcomes tests. The data is processed through analysis of validity, practicality, and effectiveness. The validity of the learning video was obtained based on the results of the validator's assessment, practicality data was obtained based on

the results of observations of the implementation of learning using learning videos in each meeting, student response questionnaires, and lecturer response questionnaires given at the end of the meeting after the learning outcomes test was carried out, while the effectiveness data were obtained from the test. Learning outcomes after the learning process and student activity observation sheets observed at each meeting.

The development model used in this study is a 4D model developed by Thiagarajan *et al.* (1974). The 4D development model consists of 4 stages, namely, define, design, develop, and disseminate. The development of the 4D model is a development model that is programmed in a systematic order. In addition, the stages in the 4D development model are also more focused on developing learning media, not learning designs. Furthermore, the stages of the 4D development model in this study are described as follows:

### ***Define***

Activities at this stage are carried out to determine and define development requirements. In general, in this definition, analysis of development needs is carried out, product development requirements that are in accordance with user needs and research and development model (R & D model) that are suitable for product development. The analysis can be done through literature study or preliminary research. Thiagarajan *et al.* (1974) analyzed 5 activities carried out in the define stage, namely: (1) early late analysis, (2) student analysis, (3) material analysis, (4) task analysis, and (5) specification of learning objectives.

### ***Design***

In the design stage, researchers have made an initial product (prototype) or

product design. In the context of developing teaching materials, this stage is carried out to make teaching media in accordance with the content framework of the results of curriculum and material analysis. Before the product design proceeds to the next stage, the product design needs to be validated. Product design validation is carried out by lecturers from the same field of expertise. Based on the validation results, there is a possibility that the product design still needs to be improved according to the validator's suggestions.

### ***Develop***

This activity is evaluated by experts in their fields. The suggestions given are used to improve the materials and learning designs that have been prepared. Developmental testing is a product design test activity on the real target subject. At the time of this trial, data were sought for responses, reactions, or comments from the target users of the model. The test results are used to improve the product. After the product is repaired then retested to obtain effective results.

### ***Disseminate***

This stage is divided into three activities, namely: validation testing, packaging, diffusion and adoption. At the validation testing stage, the product that has been revised at the development stage is then implemented on the real target. At the time of implementation, measurement of the achievement of objectives is carried out. The last activity of the development stage is to carry out packaging, diffusion, and adoption. In the context of the development of this teaching media, the dissemination stage is carried out by socializing the teaching media through distribution in limited quantities to lecturers and students. This distribution is intended to

obtain responses, feedback on the teaching materials that have been developed. If the response from the target users of teaching materials is good, then large numbers of distribution will be carried out by a wider target.

## RESULT AND DISCUSSION

### Result

The development of linear algebra learning video media in Islamic context in this development research uses the 4D development model as follows:

#### *Defining Stage*

The activities carried out at the definition stage consist of 5 activities, namely early late analysis, student analysis, material analysis, task analysis, and specification of learning objectives. Based on the preliminary analysis, information was obtained that the learning resources used were classified as inadequate because they were still using old reference books. The results of student analysis showed that there were many complaints from students stating that the elementary linear algebra course was a difficult course so that media was needed that could help students learn during elementary linear algebra lectures.

Similar results were also obtained in material analysis, namely students considered elementary linear algebra courses to be difficult subjects to learn, and the learning resources used were also less interesting and very limited. The results of the task analysis also show that the test results of most of the students are still below 75. At the stage of the specification of learning objectives, the RPS analysis of elementary linear algebra courses is obtained which is directed at the achievement of specific learning objectives to be

produced from the development of learning videos in Islamic context.

#### *Design Stage*

This stage is carried out to make learning media in accordance with the content framework of the curriculum and material analysis results. At this stage, the researchers began to design elementary linear algebra learning video media in Islamic context. This stage consists of 4 activities including the preparation of learning outcomes tests, selection of learning media, selection of formats, and initial design of learning videos.

The preparation of the learning outcomes test started from making a grid of questions until finally 4 questions were obtained in the form of descriptions/essays. The selection of media is designed differently from other media because it contains elementary linear algebra materials in Islamic context and can be accessed by students anywhere and anytime, especially during the online learning process so that it can attract students' interest to take part in activities lectures.

For the selection of media formats, it is made with a full animation display and with the help of several applications, namely: Picsart, Zepeto, XRecorder, and Kinemaster.



Figure 1. Aplikasi Picsart, Zepeto, XRecorder, and Kinemaster

The initial design of the learning video based on the verses of the Qur'an and Hadith in the elementary linear algebra course, includes: First, the introductory activity that begins with the opening video display then continues with recommendations to comply with health proto-



cols, because this learning video was developed at the time Covid-19 pandemic. The next part in the introductory activity is reading a prayer before starting the lesson. Then proceed with an animated display that opens a learning video with greetings and greetings.



Figure 2. Video Opener View

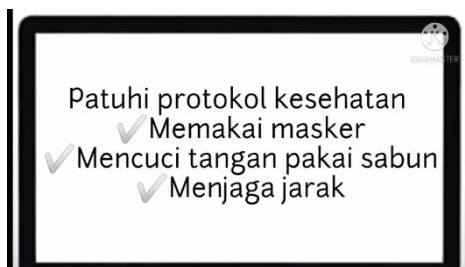


Figure 3. Display Recommendations for Adhering to Health Protocols



Figure 4. Prayer Display



Figure 5. Greetings Display

Second, the core activity, which contains verses from the Qur'an and Hadith along with an explanation of their relationship with elementary linear algebra material. Furthermore, the presentation

of elementary linear algebra material based on learning objectives. After presenting the material, it is continued with the presentation of sample questions.

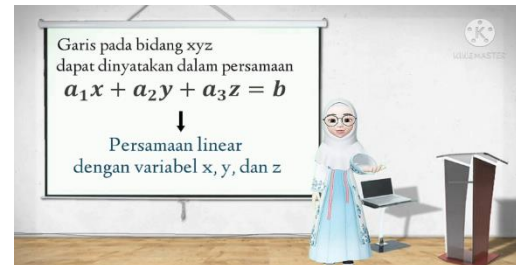


Figure 6. Material Presentation Display



Figure 7. Display of the Presentation of the Verses of the Qur'an and Hadith

Third, the closing activity begins with the presentation of an animation that closes the learning video with motivational sentences and closing greetings. Furthermore, the learning video ends with a closing video display.



Figure 7. Closing Greeting Display

### Development Stage

This stage consists of two activities, namely: expert appraisal and developmental testing. The expert appraisal process is carried out to validate or assess the feasibility of video media designs and other instruments. Validation activities are carried out by focusing more on several aspects, including material aspects,

linguistic aspects, screen display and video quality aspects, as well as animation and sound aspects. The validation process is carried out by 2 validators. The expert validation process in this study was carried out in two stages, namely the first stage validation was carried out by submitting the initial design (Prototype I) and the second stage validation was carried out by submitting the revised results (Prototype II).

The results of the validation of the design of instructional video media and other instruments are shown in Table 1:

Table 1. *Expert Appraisal Result*

Types of Media and Instruments	Average Score	Category
Learning Video	3.41	Valid
Lecturer Response Questionnaire	3.83	Very Valid
Student Response Questionnaire	3.83	Very Valid
Learning Implementation Observation Sheet	3.77	Very Valid
Student Activity Observation Sheet	3.77	Very Valid
Learning Management Observation Sheet	3.77	Very Valid
Learning Outcomes Test	3.67	Very Valid

In the developmental testing process, the results of practicality data analysis and effectiveness data analysis results are obtained. The trial observation process was carried out by 2 observers. Practical data analysis consists of observing the implementation of learning, lecturer responses, and student responses. In terms of the implementation of learning, all components are in the implemented category, both from the components of syntax, social interaction, and the principle of reaction. The responses of lecturers and students are also in the positive category with 95% for lecturer responses and 95.76% for student responses.

The effectiveness of data analysis consists of the results of data analysis of

learning management, observation of student activities, and learning outcomes tests. The results of the analysis of learning management data show that the average score of ability to manage learning using linear algebra learning video media in Islamic context is 3.81 which is at the interval of  $3,5 \leq KG < 4,5$  in the category very good. The results of observing student activities during the lecture process are also in the very good category with details of observer I observations of 87.73% which are in the  $80 \leq P \leq 100$  and and observation of observer II of 88.48% which is in the percentage interval of  $80 \leq P \leq 100$ . For the learning outcomes test, data showed that of the 33 students who took the test, there were 28 students who scored in the very good category with a percentage of 84.85% and there were 5 students who scored in the good category with a percentage of 15.15. %. Furthermore, all students who take the test are said to be classically complete because they get a score above 75.

#### *Disseminate Stage*

The learning videos obtained at the final stage of development are then socialized to elementary linear algebra lecturers for use in other classes.

#### **Discussion**

The product developed is an elementary linear algebra learning video in Islamic context that can be used independently by students. The learning media is made different from other media because it contains elementary linear algebra materials associated with verses of the Qur'an and Hadith. For example, in mathematics, the principles of elimination and substitution are used to solve two linear equations of two variables. However, in the dynamics of human life, differences can be united by 'eliminating selfishness' in each

other and 'complementing each other's shortcomings'. As the word of Allah Swt. In QS Al-Mu'minun verses 52-53:

وَأَنَّ هَذِهِ أُمَّتُكُمْ أُمَّةً وَاحِدَةً وَأَنَا رَبُّكُمْ  
فَاتَّقُونِ

"Surely this religion of yours is 'only' one, and I am your Lord, so fear Me 'alone'"

فَتَقَطَّعُوا أَمْرَهُمْ بَيْنَهُمْ زُبُرًا كُلُّ حِزْبٍ بِمَا  
لَدَيْهِمْ فَرِحُونَ

"Yet the people have divided it into different sects, each rejoicing in what they have."

By taking lessons from the principles of elimination and substitution, of course, we hope that the unity and integrity of Muslims will become even stronger.

In addition, this learning media can be listened to and studied by students wherever and whenever, as expressed by Astika *et al.*, (2019) that learning videos can also be used in the classroom or at home. Especially in the online learning process during the Covid-19 pandemic so that it can attract students' interest to take part in lecture activities.

The material presented in the learning video includes all elementary linear algebra material. The overall display design of this product is fully animated using the help of several applications, namely Picsart, Zepeto, XRecorder, and Kinemaster. The Picsart application is used to design learning video backgrounds, where the background used doesn't seem too flashy. The XRecorder application is used to record sound and set sound effects. The XRecorder recording results are then entered into the Kinemaster application. The Kinemaster application is used to create video files by including elementary linear algebra materials, verses from the

Qur'an and Hadith and their explanations, as well as pre-designed background, animation, and sound recordings. According to Sadiman, Rahardjo, and Haryono (2008), video is an audio-visual medium that displays images and sound; It can be informative, educative or instructional.

This learning video was developed using a 4D development model that went through four stages, namely: (1) define stage, (2) design stage, (3) develop stage, and (4) disseminate stage (Thiagarajan *et al.*, 1974).

The define stage is divided into 5 stages of analysis, namely early-late analysis, student analysis, material analysis, task analysis, and specification of learning objectives. At this stage it is known that what students need in elementary linear algebra courses are learning videos based on verses of the Qur'an and Hadith in elementary linear algebra courses so that students can learn independently and are able to strengthen understanding during the learning process because some Most students still consider elementary linear algebra courses to be difficult subjects to learn, and the learning resources used are also less interesting and very limited. In addition, they have never found elementary linear algebra learning related to religious materials. Schoenfeld (2017) in his research on the use of video in learning states that video plays a role in efforts to support learning that allows students to have critical thinking and problem-solving skills. Research conducted by Purwanti (2015) is also related to the development of mathematics learning videos. The research shows the results that the learning videos developed can make learning effective.

The design stage is divided into 4 stages, namely the preparation of learning outcomes tests, the selection and determination of teaching materials, the selection of formats, and the initial design of



learning videos. The design of the media is adjusted to the needs of students regarding teaching materials that can support the achievement of learning objectives. In this study, the media needed is a learning video based on the verses of the Qur'an and Hadith which can be watched by students anywhere and anytime, especially during the online learning process. As the opinion of Reiser and Dick (in Obagah and Brisibe, 2017) about three main criteria in the selection of learning media, namely practicality, student suitability, and instructional suitability.

The develop stage is divided into two stages, namely validation and testing. The expert validation stage is carried out before the product is tested. The validation process for learning videos and other instruments is carried out by the validator to assess the feasibility of the instructional media design. After testing by the validator, suggestions are obtained. Based on suggestions from the validator, follow-up was carried out to adjust or revise in accordance with comments and suggestions for improvements to the product design in the form of elementary linear algebra learning video media in Islamic context and other supporting instruments. The validation results show that the learning video media is in the valid category and other instruments are in the very valid category. Furthermore, at the trial stage, data on practicality and effectiveness were obtained. The learning video media that has been developed has met all the set practical criteria, namely in terms of observing the implementation of learning, lecturer responses, and student responses. In addition, the developed learning video media has also met all the effectiveness criteria which can be seen from the results of learning management data analysis, observation of student activities, and learning outcomes tests. Lalian (2018) stated that the use of video

as a medium for learning mathematics plays a role in increasing learning motivation, increasing knowledge and understanding of lessons and improving learning achievement.

In the disseminate stage, learning video media that have been developed are then socialized or disseminated to other lecturers so that they can be used more widely and touch many groups. This learning video-based media has many advantages so it is believed that it will be easily accepted by lecturers and students. Sanaky (in Purwanti, 2015) also mentioned the advantages of video media, namely presenting concrete learning objects or learning messages realistically, so it is very good to add to the learning experience and can motivate to learn.

Another advantage is that this video media is in Islamic context. Anjarsari and Karim (2020) revealed that the mathematics learning video is an innovation as an answer to the challenges of the times that contain knowledge content and there are values in it. This instructional video media will increase students' insight into the relationship between elementary linear algebra material on the material of linear equation systems, matrices, inverse matrices and Gaussian elimination, elementary matrices, determinant functions, as well as cofactor expansion and Cramer's rule with the verses of the Qur'an. and Hadith and obtained research results that meet the level of validity, practicality, and effectiveness. This is in line with research by Musarofah (2019) with the title "Development of Learning Media in the Form of Animated Videos Loaded with Al-Qur'an Verses with Youtube Output", the validation results were obtained by validators of material, media and religious experts with the criteria of "Very Good". Then the learning media was tested, so it can be concluded that

the animated video learning media containing the verses of the Qur'an with YouTube output is in the good category and agrees to be used in learning. Likewise, the results of research conducted by Lestari (2019) regarding "Development of Physics Learning Video Media enriched with Tadabbur Al-Qur'an, obtained validation results by media experts who stated that the product was very feasible for field trials. Furthermore, the results of the field trial were obtained by stating the students agreed with the positive statement in the response questionnaire. This shows that this product is interesting and feasible to use in learning.

## CONCLUSION

The development of elementary linear algebra learning videos in Islamic context is stated to be practical to use in learning, based on the results of observations of the implementation of learning, both in the components of syntax, social interaction, and the principle of reaction. In addition, based on the responses of lecturers and students, the lecturers gave a positive response of 95% and a positive response of students of 95.76%. In addition, the development of elementary linear algebra learning videos in Islamic context was also declared effective in learning. This is evidenced by the management of learning with an average of 3.81 in the very good category, student activities during the learning process of elementary linear algebra based on the verses of the Qur'an and Hadith in the very good category, namely 87.73% and 88.48% based on data from 2 observers, and student learning outcomes tests which showed 100% of students achieved graduation with 15.15% in the good category and 84.85% in the very good category. Therefore, it can be concluded that the elementary lin-

ear algebra learning video media in Islamic context that have been developed meet the levels of validity, practicality, and effectiveness.

The elementary linear algebra learning video media in Islamic context developed in this study can be a solution to support the implementation of more interactive online learning at the university level. In addition, it is recommended for further researchers to be able to conduct research on the development of learning video media in Islamic context that are broader in other materials.

## REFERENCES

- Anjarsari, P., & Karim, A. (2020). Analisis Video Pembelajaran Matematika Tingkat SMA Sederajat. *Prosiding Seminar Nasional dan Diskusi Panel Pendidikan Matematika Universitas Indraprasta PGRI*, 247–254.
- Astika, R. T., Astra, I. M., Makmuri, Sumarni, S., Andika, W. D., & Palupi, E. K. (2019). Survey of Elementary School Teacher Needs on Video Learning Mathematics Based on Contextual Teaching and Learning in Palembang City. *Al-Jabar: Jurnal Pendidikan Matematika*, 10(2), 251–260.  
<https://doi.org/10.24042/ajpm.v10i2.4936>
- Ernawati. (2014). Pengembangan Perangkat Pembelajaran Berdasarkan Model 4-D Pada Materi Getaran Gelombang dan Bunyi dalam Meningkatkan Pemahaman Konsep Siswa SMP Negeri 6 Palu. *Jurnal Sains dan Teknologi Tadulako*, 3(1), 62–71.
- Friantini, R. N., & Winata, R. (2019). Analisis Minat Belajar pada Pembelajaran Matematik. *JPMI (Jurnal Pendidikan Matematika Indonesia)*, 4(1). <https://doi.org/10.26737/jpmi.v4i1.870>
- Hasan, B. (2020). Pemanfaatan Google Classroom dalam Matakuliah Menggunakan Media Video Screencast O-Matic. *Widya Wacana: Jurnal Ilmiah*, 15(1), 9–15.  
<https://doi.org/dx.doi.org/10.33061/j.w.wacana.v15i1.3484>
- Hasanah, A., Lestari, A. S., Rahman, A. Y., & Danil, Y. I. (2020). Analisis Aktivitas Belajar Daring Mahasiswa pada Pandemi COVID-19. *KTI Masa WFH LP2M*.
- Jamil, H., & Aprilisanda, D. (2020). Pengaruh Pembelajaran Daring terhadap Minat Belajar Ma-

- hasiswa pada Masa Pandemi Covid-19. *Behavioral Accounting Journal*, 3(1), 37–46. <https://doi.org/10.33005/baj.v3i1.57>
- Lalian, O. N. (2018). The effects of using video media in mathematics learning on students' cognitive and affective aspects. *AIP Conference Proceedings 2019*, 030011. <https://doi.org/10.1063/1.5061864>
- Lestari, I. (2019). *Pengembangan Media Video Pembelajaran Fisika Diperkaya Tadabbur Al-Qur'an*. Universitas Islam Negeri Raden Intan Lampung.
- Mancaniello, M. R. (2020). Adolescenti al tempo del Covid-19: una riflessione sul significato di vivere "attimi della catastrofe adolescenziale" in uno spazio-tempo negato, nella separazione corporea dal gruppo dei pari e in una relazione scolastica digitale. *Studi Sulla Formazione/Open Journal of Education*, 23(1), 13–43. <https://doi.org/10.13128/ssf-11781>
- Mufidah, A., Sulasteri, S., Majid, A. F., & Mattoliang, L. A. (2019). Analisis Pemahaman Konsep Aljabar Pada Mata Kuliah Aljabar Linear Elementer. *Al-Asma-Journal of Islamic Education*, 1(1), 42–52.
- Musarofah, S. (2019). *Pengembangan Media Pembelajaran Berupa Video Animasi Bermuatan Ayat Al-Qur'an dengan Output Youtube*. Universitas Islam Negeri Raden Intan Lampung.
- Obagah, R. R., & Brisibe, W. G. (2017). The Effectiveness of Instructional Videos in Enhancing Learning Experience of Architecture Students in Design and Drawing Courses: A Case Study of Rivers State University, Port-Harcourt. *International Journal of Education and Research*, 5(11), 33–46.
- Pratiwi, D. D. (2019). Pengembangan Bahan Ajar Aljabar Linier Berbasis Nilai-nilai Keislaman dengan Pendekatan Saintifik. *Desimal: Jurnal Matematika*, 2(2), 155–163.
- Purwanti, B. (2015). Pengembangan Media Video Pembelajaran Matematika dengan Model Assurance. *Jurnal Kebijakan Dan Pengembangan Pendidikan*, 3(1), 42–47.
- Rahmi, Mardiyah, A., & Juwita, R. (2017). Analisis Kebutuhan Mahasiswa dalam Mengikuti Perkuliahan Aljabar Linear Elementer. *LEMMA*, III(2), 1–7.
- Ruswana, A. M. (2019). Analisis Kemampuan Pemahaman Matematis Pada Mata Kuliah Aljabar Linier Elementer. *Journal Cendekia*, 03(02).
- Sa'adah, I., Pramono, S. E., & Suharso, R. (2017). Pengembangan Media Video Motion Graphic Sejarah Pemerintahan Herman Willem Daendels (1808-1811) dalam Pembelajaran Sejarah Indonesia Untuk Meningkatkan Minat Belajar Siswa Untuk SMA. *Indonesian Journal of History Education*, 5(1), 25–31.
- Sadiman, A. S., Rahardjo, R., & Haryono, A. (2008). *Media Pendidikan Pengertian, Pengembangan, dan Pemanfaatannya*. Pustekom Dikbud dan PT Raja Grafindo Persada.
- Schoenfeld, A. (2017). Uses of video in understanding and improving mathematical thinking and teaching. *Journal of Mathematics Teacher Education*, 20. <https://doi.org/10.1007/s10857-017-9381-3>.
- Tarida, L., & Indriyan. (2020). Pemanfaatan Google Classroom dan Video Pembelajaran berbasis Problem Solving sebagai Solusi Kegiatan Belajar Mengajar di Era Pandemi Covid-19. *Jurnal Saintara*, 5(1), 16–20.
- Thiagarajan, S., Semmel, D. S., & Semmel, M. I. (1974). *Instructional Development for Training Teachers of Exceptional Children*. Minneapolis. Leadership Training Institute/Social Education, University of Minnesota.
- Viviantini. (2015). Pengaruh Media Video Pembelajaran Terhadap Minat dan Hasil Belajar IPA Siswa Kelas VI SDN 6 Kayumalue Ngapa. *Jurnal Sains Dan Teknologi Tadulako*, 4(1), 66–71.