DEVELOPMENT OF AISS APP (LOCAL CULTURE OF INDONESIA STOCK SIMULATOR APPLICATION) AS STOCK INVESTMENT LEARNING MEDIA

Selvi Sehiling[1], Ahmad Ajib Ridlwan[2]

[1] Universitas Negeri Surabaya, Surabaya., Indonesia
[2] Universitas Negeri Surabaya, Surabaya., Indonesia
sehilings@gmail.com

Keywords:	Abstract
development, learning media, stock investment, culture, android.	*The purpose of this study is to develop stock investment learning media that is integrated with android-based cultural insights. This research belongs to the research and development. The research and development used in this study is represented by the Borg & Gall version model which has 10 stages; however, empirically it can be summerized into 4 stages, namely introduction, development, validation and implementation. The subjects in this study are divided into two groups: expert lecturers as validators of applications and materials and users between the ages of 15-20. The object of the study is the interest in stock investment. This study's writing method is a descriptive method with a quantitative-qualitative approach. Based on an online survey conducted by the researchers, it shows that out of 90 respondents, 74 percent of them had no idea about the stock issuance system and 35.6 percent of respondents were interested to stock investment, and 51.1 percent had a desire to invest in stocks but did not know how to do so. The validity results of AISS APP development products based on expert validator assessments are declared valid, having a good category and able to be applied as learning media. As for the basis of limited trials, the result is valid, very good and able to be applied..*

INTRODUCTION

The development of the economic sector aims to respond to problems and challenges to increase the prosperity of society. Economic development requires investment support including stock as the main source of economic growth. The connection between stock market development and economic growth is two-way, even the stock market has a significant influence on economic growth (Masoud & Hardaker, 2012). Stock market of the country is usually approximated as the country's face of the economy so it really means to know about the stock market and foreign portfolio

Selvi Sehiling[1], Ahmad Ajib Ridlwan [2]

investment volatility (Waqas et al., 2015). Investment is the act of spending money or funds currently with the aim of getting returns or profits in the future (E. Dewi et al., 2013). As for the definition of investment according to the Kamus Besar Bahasa Indonesia [Online] (2016) is capital investment in a project in order to make a profit.

For a country, investment is needed to encourage economic growth because the high level of investment affects in the active cash flow in a country. If it is compared to several neighboring countries such as Singapore, Thailand and Malaysia, the number of local investors in Indonesia based on percentage is still relatively small. As for the number of local investors in Malaysia, it has reached 18 percent of the total population. The same thing happened in Singapore, where the number of local investors has reached 30 percent. Meanwhile, based on data from the Kustodian Sentral Efek Indonesia (KSEI), as of December 2020, the number of sub-securities accounts in C-BEST has only reached 2,175,967 accounts (ksei.com, 2020). Which means that the number of local investors in Indonesia was less than 1.3 percent of the total population. Even then, not all investors were recorded as actively making transactions in the capital market. This shows that interest in stock investment in Indonesia was still low.

A domestic financier or local investor is an important component of the index. Strengthening domestic financiers basically strengthens the domestic capital market as well. The increasing number of local investors accompanied by a good level of knowledge, can undoubtedly dampen the stock exchange turmoil that foreign investors often play with (Dungkal et al., 2011). This is because the foreign investors invest for short-term profits and they probably withdraw their investment in uncertain conditions. Therefore, taking into account risk factors in terms of foreign investment volatility is critical (Kodongo & Ojah, 2012). So that the domestic capital market can be strong in facing shocks from external factors.

The low investment interest can be attributed to people's limited knowledge of investment. Online survey data conducted by researchers shows that of the 90 respondents, 74 percent of them having no idea about the stock issuance system and 35.6 percent of respondents were interested to stock investment, and 51.1 percent had a desire to invest in stocks but did not know how. This shows that public knowledge related to stock investment is one of the reasons for the low number of local investors in Indonesia. As a result, stock investment education is critical in order to increase investment interest. This is in line with the opinion of Al Umar (2019); P. Dewi et al.

Selvi Sehiling[1], Ahmad Ajib Ridlwan [2]

(2020); Hermawati et al. (2018); Mastura et al. (2020); Prayoga (2019) and Tandio & Widanaputra (2016) who stated that training or education and knowledge related to investment in the capital market significantly affect investment interest. Pertiwi et al (2020) stated that with socialization and education about stock investment, it is hoped that students will be able to become capital market investors and disseminate information about these investment instruments to the public.

On the other hand, despite these problems, the cultural interest of the Indonesian people is still minimal. In some cases, for example, the Debus Art show (Banten), puppet show and Kuda Lumping get the interest only about 0.67 percent. It causes an identity crisis and the extinction of indigenous Indonesian culture in the future, there can even be cases of recognition of Indonesian culture as a culture belonging to other countries (Kemendikbud, 2016). An alternative to preserve Indonesian culture and increase interest in stock investment is to provide education about stock investment that is integrated with culture through education with interesting learning media. Introducing stock and cultural investment with fun method is one of the effective ways. According to Kolp A.Y & Kolp D.A (2005), a number of principles in the learning process are creating space for feelings, thinking, acting and reflecting. This will be obtained one of them by packaging interesting learning media with the fun method.

Furthermore, using learning media can facilitate student and teacher learning, make abstract learning concrete so that it is more interesting, make teaching and learning activities less boring and more interactive, and interpret learning using all sensory tools (Ekayani, 2017; Falahudin, 2017; Karo-Karo & Spiritual, 2018; Spiritual, 2019; Supriyono, 2018). Learning is an activity carried out to gain competence in the form of knowledge and skills as needed. On the other hand, learning can be viewed as a process of elaboration in order to obtain meaning carried out by a person (Trinova, 2012). Playing can be defined as an activity that is done to create excitement or fun. Students can maximize their intellectual, mental, spiritual, and physical potential in the learning process by playing and participating in various fun and enjoyable games (Trinova, 2012).

Meanwhile, the use of technology as a learning medium is considered quite effective and can facilitate the educators to interact with students, in class or out class. On the other hand, technology has also proven to have a big for learning process and makes it more flexible (Andriani, 2015; Anshor, 2018; Martono & Nurhayati, 2014).

Selvi Sehiling[1], Ahmad Ajib Ridlwan [2]
According to Tabor & Minch (2013) in their research, it is stated that developing digital media as a learning medium is preferred by students rather than traditional projects. Therefore, researchers want to test stock investment learning media development product that is integrated with digital media-based cultures, namely android with a game concept.

RESEARCH METHODS

This research belongs to research and development. According to Sugiyono (2012), research and development aims to create a product and test the effectiveness of the product being developed. The development of this research is an android-based stock investment learning medium. Meanwhile, the development model used in this study adopts the W. R Borg, M. D Gall version of the development research model which has 10 stages, but empirically can be packaged and simplified into 4 stages, namely Introduction, Development, Validation and Implementation (Haryati, 2012).

The writing method in this study uses a descriptive method through a quantitative qualitative approach. Furthermore, the study of the problem in this writing is carried out by reading various literary sources that are in line with the research in order to get a solution to the research problem. While the method chosen is to use literature studies, then it will be aligned with the concept of ideas and existing problems. The subjects in this study are divided into two which are expert lecturers as validators of applications and materials also users in the age of 15-20 years old. The validity test data analysis technique uses the formula adopted from Ridwan & Sunarto (2009: 38), namely:

$$X = \frac{\sum x_1 + \sum x_2}{n}$$

Information:

X = AISS APP learning media value

$\sum x_1$ = Number of 1st validator scoring scores

$\sum x_2$ = Number of 2nd validator scoring scores

n = Number of validators

RESULTS AND DISCUSSION

This media is a learning media that integrates stock investment simulations and Indonesian cultural insights. Students will learn to manage their money to be invested in

Selvi Sehiling[1], Ahmad Ajib Ridlwan [2]

physical investments in the form of land, building houses and hotels as well as financial investments in the form of stocks that hopefully can provide profits in the future. Students will learn to make investment decisions using technical analysis methods. Technical analysis is an analytical method that uses historical price data through graphic illustrations of price movements in the market (Oliver Publishing Inc., 2005; Kumar, 2013; Elbialy, 2019). According to Wang et al (2021), utilizing technical analysis together with sentiment analysis can improve the accuracy of profit predictions in investing.

This media is developed with a combination of conventional media and android-based digital media. Examples of content from AISS APP learning media are as follows:
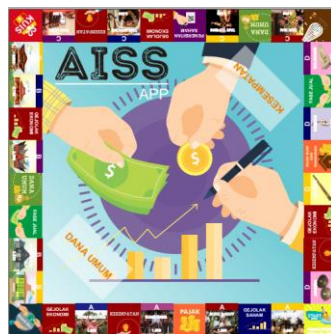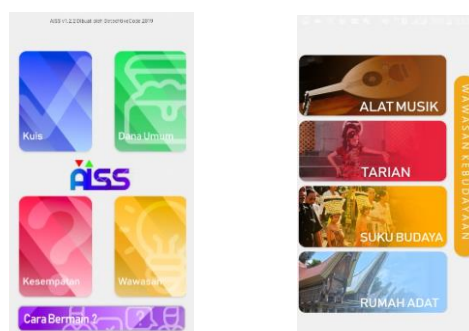
Figure 1. Board Games

Figure 2. App View

The development model used in this study adopts the Borg & Gall (1989) version of the development research model which has 10 stages, but empirically can be summerized into 4 stages (Haryati, 2012), namely:

1. **Preliminary stages**

a. Problem Analysis

Problem analysis is carried out by means of Literature Studies and online surveys

Selvi Sehiling[1], Ahmad Ajib Ridlwan [2]
through google forms to identify common problems that need to be solved. From the results of the literature review, it was found that there is no stock investment learning media that is attractive and easy to use by ordinary people, coupled with the lack of knowledge of the younger generation about investment and Indonesian culture. Furthermore, based on an online survey conducted by researchers, it was found that as many as 74.4 percent of respondents stated that they had no idea about the stock issuance system.
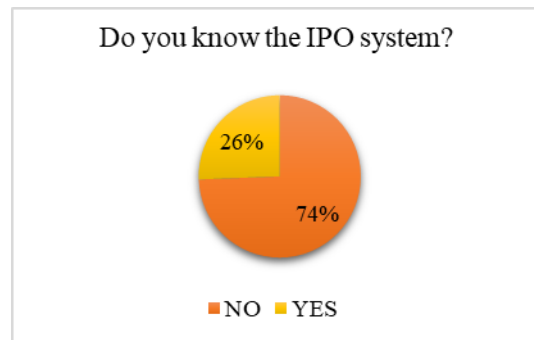

Figure 3. Survey of The Level of Public Understanding of Stocks

b. Needs analysis

1) Based on literature studies and online surveys that have been carried out, further analysis of the data that has been obtained. Based on the reality on the ground that investment-based lending media is still minimal and based on an online survey conducted, it was found that as many as 35.6 percent of respondents stated that they really want to save stocks, 51.1 percent want to save stocks, 12.2 percent do not want to save stocks and only 1.1 percent really do not want to save stocks. Meanwhile, regarding the need for stock investment learning media, 49 percent of respondents said they really needed it, 44 percent said they needed it and 7 percent said they didn't need it. Therefore, education about stock investment needs to be done through a pleasant medium in order to provide knowledge about stock investing.
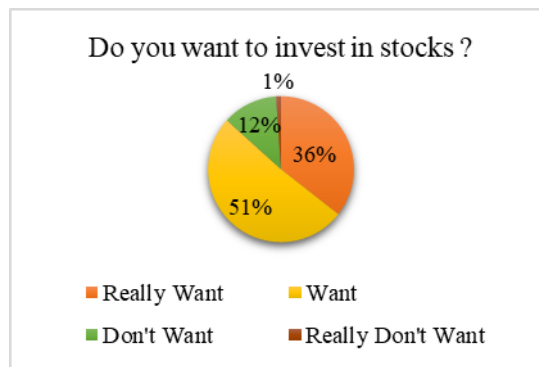
Selvi Sehiling[1], Ahmad Ajib Ridlwan [2]
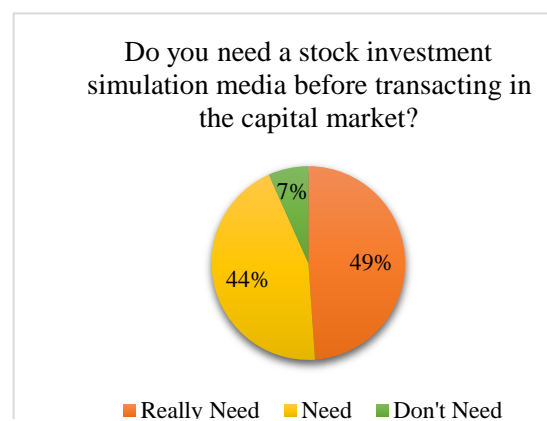
Figure 4. Stock Investment Interest Survey

Figure 5. Community Needs Survey

2) Learn about the material and the components needed to compile learning media.

3) Create an overview of the AISS APP.

2. Stages of development

The development stage is the stage of preparing a research plan, determining goals, developing the initial design of the AISS APP and preparing supporting components. As for the AISS APP cover design, the contents, wiring diagrams and supporting ornaments will be designed using Corel Draw X5 software. While the AISS APP application uses android studio software. The following are the steps to create an AISS APP in terms of applications:

a) Design the appearance of the media to be created.

b) Prepare the image and text to be created.

c) Open Android Studio by selecting ActionScript.

d) Insert images, text and others into the system according to the design.

e) Create a keyframe to insert learning materials.

Selvi Sehiling[1], Ahmad Ajib Ridlwan [2]

f) Save the document from the creation of the media into an extension and publish the settings.

g) Check the results in the application that has been created in the storage folder.

3. Validation Stages

a. Media Validation

A model can be said to be valid if the results are acceptable to users and can provide an explanation regarding the actuality of implementation. At this stage, expert validation and limited trials are carried out. Validation is carried out by involving 2 validators consisting of investment management experts and informatics engineering lecturers. Here are the AISS APP media validation results.

Table 1. Material validation results

No.	Aspects of Evaluation	Value
1.	Completeness of the material	80
2.	Values of civility recognition	79
3.	Material suitability	75
4.	Display compatibility	80
5.	Eligibility of contents	80
Total		394
Average		78.8

Table 2. Media validation results

No.	Assessment Aspects	Value
1.	Software Engineering	80
2.	Learning Design	70
3.	Visual Communication	70
Total		220
Average		73.3

After the assessment is carried out, the validation value of learning media is calculated based on the formula from Ridwan & Sunarto (2009: 38) as previously explained. So that the assessment result was 76. The final results of the validation are then aligned with the feasibility table of the development product to determine the

Selvi Sehiling[1], Ahmad Ajib Ridlwan [2]

feasibility of the AISS APP development product. The criteria used in determining the feasibility of a development product based on the validation results can be seen in the table below:

Table 3. Eligibility criteria for development products

Shoes	Information
80-100	Valid/Usable, Excellent
60-79	Valid/Usable, Good
50-59	Less Valid, Less, Improvement required
<50	Not Worth It

Source : (Yuliana & Mentari, 2012)

Based on the table above it can be known that AISS APP media has the category **Good, valid / usable**. This is because the final average value of the validation results is **76.75.** Thus, AISS APP is worth using according to expert validation.

The next stage of validation is a limited trial with the aim of determining the effectiveness of the learning media developed. From the results of a limited trial consisting of 6 users, the value obtained was 487 with details of 95, 76, 85, 85, 85 and 61. The total value is then divided by 6 and then multiplied by 100 percent, so that an average result of **81.16 percent** is found. Based on these results and has been aligned with the feasibility table of the development product, then the AISS APP media is categorized as **Excellent, Valid / usable**.

b. Evaluation and revision of the final product

Among the validation stages is evaluating the media and revising the final product. The evaluation from investment management experts is that improvements are needed in the form of providing AISS APP game rules. Furthermore, the researcher improved this by providing game rules on the AISS APP learning media. Meanwhile, the evaluation from informatics engineering experts is in the form of suggestions that dice and game cards are also included in the application.

4. Stages of Implementation

After conducting expert validation and limited trials, the next stage is implementation. This stage is divided into two things, namely dissemination and implementation. The purpose of this stage is to disseminate the development product. The implementation stage in this study was only carried out in a limited disseminating

Selvi Sehiling[1], Ahmad Ajib Ridlwan [2]

manner, namely by promoting or disseminating development products in reality through competition events.

The results of the AISS APP development product research in terms of the use of digital media are considered to have a positive impact and are considered effective in increasing interest in learning, found harmony with several previous studies. Among these studies are research from Adam & Syastra (2015) which utilizes Information Technology as a learning medium which shows positive results in the learning process, research from Anita et al. (2018) which utilizes innovative learning media based on science and technology for elementary school teachers, research from Martono & Nurhayati (2014) which states that as many as 95 percent of students are happy with *mobile learning* , as well as research from Muyaroah & Fajartia (2017) which produced learning media based on Android related to biology subjects showing effective results. On the other hand, the effectiveness of the use of digital media as a learning medium was also stated by Novitasari et al. (2013) who made IT-based learning media in the form of snakes and ladders games for optical equipment material which produced development products with excellent criteria, then research from Yektyastuti & Ikhsan (2016) who developed an Android-based chemistry learning media stated that there was an increase in learning performance due to these media and the research of Yulaika et al. (2020) which stated that there was a positive impact of the use of flip book-based electronic teaching materials.

In addition, AISS APP media is reviewed as a learning medium with a game concept that is considered effective and has a positive impact also in line with several previous studies. Among the studies that stated the positive impact of the use of learning media with the concept of games was research from Afandi (2015) which developed the learning media of snakes and ladders games stating that student learning motivation increased by up to 70 percent, then research from Anditasari et al. (2018) stating that the use of educational game-based media that is applied can have an impact on improving the description ability of students, Nugrahani's research (2007) also revealed that students' absorption and understanding have increased after using visual-based learning media in the form of snakes and ladders games. Not only that, the research that supports this research is the result of research from Rahaju & Hartono (2017) which states that monopoly-free learning media can improve student learning achievement, research by Suhendro & Chomsatu (2014) with a capital market learning model based

Selvi Sehiling[1], Ahmad Ajib Ridlwan [2]

on the beginning of the trade states that students feel the ease and great benefits with the learning model, research from Wicahyo (2018) who developed learning media with the concept of monopoly games showed results that as many as 83 percent of student responses stated that they were worthy of being applied because they were considered effective for increasing learning motivation, as well as research from Aryani et al. (2019) Those who use monopoly learning media state that the use of such media is considered feasible and effective.

Conclusion

AISS APP is a stock investment learning media that is integrated with Indonesian culture and is available on both traditional and android platforms. The development model used in this study adopts the Borg & Gall (1989) version of the development research model which has 10 stages, but is empirically packaged and simplified into 4 stages, namely Introduction, Development, Validation and Implementation. Based on the findings and results of the analysis in this study, it can be concluded that the development of AISS APP learning media is declared valid by validators with good categories and can be used as a learning medium to introduce stock investment and Indonesian cultural insights. Meanwhile, the results of the limited trial also stated that the AISS APP learning media was declared valid with excellent categories and could be used. The results of this study have supported several previous studies that stated the effectiveness of using learning media with the concept of digital media-based games. The suggestion that can be proposed is for this development product to be adapted to the *play store* so that it can be used by anyone. And it is hoped that support from various parties to implement this development product.

REFERENCES

Adam, S., & Syastra, M. T. (2015). Pemanfaatan Media Pembelajaran Berbasis Teknologi Informasi Bagi Siswa Kelas X SMA Ananda Batam. *CBIS Journal*

Afandi, R. (2015). Pengembangan Media Pembelajaran Permainan Ular Tangga Untuk Meningkatkan Motivasi Belajar Siswa dan Hasil Belajar IPS di Sekolah. *Jurnal Inovasi Pembelajaran*

Al Umar, A. U. A. (2019). Pengaruh manfaat, pengetahuan, dan edukasi terhadap minat mahasiswa dalam berinvestasi di pasar modal syariah. Li Falah : *Jurnal Studi Ekonomi Dan Bisnis Islam*

Selvi Sehiling[1], Ahmad Ajib Ridlwan [2]

Anditasari, R., Martutik, & Andajani, K. (2018). Pengembangan Media Berbasis Permainan Edukatif pada Pembelajaran Menulis Teks Deskripsi. *Jurnal Pendidikan*

Andriani, T. (2015). Sistem Pembelajaran Berbasis Teknologi Informasi dan Komunikasi. Sosial Budaya

Anita, Y., Karma, R., Wahyuni dan, S., & Rahmi, N. (2018). Pembuatan Media Pembelajaran Inovatif Berbasis IPTEK bagi Guru SD Terpencil. *Jurnal Paradharma-Oktober*

Anshor, S. (2018). Pemanfaatan Teknologi Informasi Dan Komunikasi Sebagai Media Pembelajaran. *Jurnal Ilmu Pendidikan PKn Dan Sosial Budaya*

Aryani, N. D., Lestari, A., Inayah, A. D., & Kurniasih, Y. (2019). Jurnal Biotek. *Jurnal Biotek*

Dewi, E., Amar, S., & Sofyan, E. (2013). Analisis Pertumbuhan Ekonomi, Investasi, dan Komsumsi di Indonesia. *Jurnal Kajian Ekonomi*

Dewi, P., Tamansari, N. M., & Santini, N. M. (2020). Pengaruh Edukasi Pasar Modal Terhadap Persepsi Risiko Dan Minat Berinvestasi Masyarakat. KRISNA: Kumpulan Riset Akuntansi

Dungkal, A., Muslim, A., Rusyanto, E., Nuky, E., & Hartati, E. R. (2011, November). Menjadi Miliarder Dari Pasar Modal. November.

Ekayani, N. L. P. (2017). Pentingnya Penggunaan Media Pembelajaran untuk Meningkatkan Prestasi Belajar Siswa. March

Elbialy, B. A., (2019). The Effect of Using Technical and Fundamental Analysis on the Effectiveness of Investment Decisions of Traders on the Egyptian Stock Exchange. *International Journal of Applied Engineering Research*

Falahudin, I. (2017). Pemanfaatan Media Pembelajaran. *Jurnal Lingkar Widyaiswara*

Haryati, S. (2012). Research and Development (R&D) Sebagai Salah Satu Model Penelitian dalam Bidang Pendidikan. 37(1), 11–26.

Hermawati, N., Rizal, N., & Mudhofar, M. (2018). Analisis Faktor – Faktor Yang Mempengaruhi Minat Mahasiswa Untuk Berinvestasi Di Pasar Modal (Studi Pada Mahasiswa Prodi Akuntansi STIE Widya Gama Lumajang. *Proceedings Progress Conference*

Kamus Besar Bahasa Indonesia. [online]. (2016). https://kbbi.kemdikbud.go.id/entri/investasi

Karo-Karo, I. R., & Rohani. (2018). Manfaat Media Dalam Pembelajaran. *AXIOM Journal*

Kemendikbud. (2016). Analisis Partisipasi Kebudayaan.

Kolb, A. Y.,& Kolb, D. A. (2005). Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education. *Academy of Management Learning & Education*

Kodongo, O., & Ojah, K. (2012). The dynamic relation between foreign exchange rates and international portfolio flows: evidence From Africa's capital markets. *International Review of Economics and Finance*

ksei.com. (2020). Jumlah Sub Rekening Efek di C-BEST. Kustodian Sentral Efek Indonesia

Selvi Sehiling[1], Ahmad Ajib Ridlwan [2]

Kumar et al. (2013). Importance of Technical and Fundamental Analysis and Other Strategic Factors in the Indian Stock Market. *Management Review: An International Journal*

Martono, K. T., & Nurhayati, O. D. (2014). Implementation of Android-Based Mobile Learning Application as a Flexible Learning Media. *International Journal of Computer Science Issues*

Masoud, N., & Hardaker, G. (2012). The impact of financial development on economic growth: Empirical analysis of emerging market countries. Studies in Economics and Finance

Mastura, A., Nuringwahyu, S., & Zunaida, D. (2020). Pengaruh Motivasi Investasi, Pengetahuan Investasi Dan Teknologi Informasi Terhadap Minat Berinvestasi di Pasar Modal. Jiagabi, 9(1), 64–75.

Mulyadi. (2013). Sistem Akuntansi. Salemba Empat.

Muyaroah, S., & Fajartia, M. (2017). Pengembangan Media Pembelajaran Berbasis Android dengan menggunakan Aplikasi Adobe Flash CS 6 pada Mata Pelajaran Biologi. *Innovative Journal of Curriculum and Educational Technology*

Novitasari, E., Supurwoko, & Surantoro. (2013). Pengembangan Media Pembelajaran Berbasis It Berbentuk Permainan Ular Tangga Materi Alat Optik Untuk Kelas VIII SMP. *Jurnal Pendidikan Fisika*

Nugrahani, R. (2007). Media Pembelajaran Berbasis Visual Berbentuk Permainan Ular Tangga Untuk Meningkatkan Kualitas Belajar Mengajar Di Sekolah Dasar. Lembaran Ilmu Kependidikan

Oliver Publishing Inc. (2005). Fundamental and Technical Analysis. http://oliverslearning.com/pdfs/fta/fundamental_and_technical_analysis.pdf

Pertiwi et al. (2020). Decisions for Stock Investment among University Students. SHS Web of Conferences 76

Prayoga, Y. (2019). Pengaruh Edukasi Dan Sosialisasi Sekolah Pasar Modal Bursa Efek Indonesia Terhadap Motivasi Membeli Saham Di Galeri Investasi Universitas Labuhan Batu. *Ecobisma (Jurnal Ekonomi, Bisnis Dan Manajemen)*

Rahaju, & Hartono, S. R. (2017). Pembelajaran Matematika Berbasis Permainan Monopoli Indonesia. *Jurnal Ilmiah Pendidikan Matematika*

Ridwan, & Sunarto. (2009). Pengantar Statistika: untuk Penelitian Pendidikan, Sosial, Ekonomi, Komunikasi dan Bisnis. Alfabeta.

Rohani. (2019). Media Pembelajaran. In Fakultas Ilmu Tarbiyah dan Keguruan Universitas Islam Negeri Sumatera Utara.

Rosmida, & Wahyuni, E. S. (2017). Keberhasilan Program "Yuk Nabung Saham" oleh Bursa Efek Indonesia dalam Meningkatkan Penjualan Instrumen Pasar Modal di Indonesia. Inovbiz

Smith, Peter K And Pellegrini. (2008). "Learning Through Play". Minessta: Goldsmiths, University of London, United Kingdom University of Minnesota

Sugiyono. (2012). Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif dan R & D. Alfabeta.

Selvi Sehiling[1], Ahmad Ajib Ridlwan [2]

Suhendro, & Chomsatu, Y. (2014). Model Pembelajaran Pasar Modal Berbasis Simulasi Perdagangan Daring melalui Perdagangan Maya BEI. *Jurnal Akuntansi Multiparadigma*

Sunariyah. (2011). Pengetahuan Pengetahuan Pasar Modal. UPP AMP YKPN.

Supriyono. (2018). Pentingnya Media Pembelajaran Untuk Meningkatkan Minat Belajar Siswa SD. *Edustream: Jurnal Pendidikan Dasar*

Tabor, S. W., & Minch, R. P. (2013). Student Adoption & Development of Digital Learning Media: Action Research and Recommended Practices. *Journal of Information Technology Education*

Tandio, T., & Widanaputra, A. A. G. P. (2016). Pengaruh Pelatihan Pasar Modal, Return, Persepsi, Risiko, Gender, dan Kemajuan Teknologi pada Minat Investasi Mahasiswa. *E-Jurnal Akuntansi Universitas Udayana*

Trinova, Z. (2012). Hakikat Belajar Dan Bermain Menyenangkan Bagi Peserta Didik. *Al-Ta Lim Journal*

Wang et al. (2021). Learning-Based Stock Market Trending Analysis by Incorporating Social Media Sentiment Analysis.https://assets.researchsquare.com/files/rs-s181424/v1_covered.pdf?c=1631865037

Wicahyo, G. S. (2018). Pengembangan Media Pembelajaran Berbasis Permainan Monopoli Pada Materi Perencanaan Pemasaran Kelas X Jurusan Pemasaran SMK Ketintang Surabaya. *Jurnal Pendidikan Tataniaga*

Yektyastuti, R., & Ikhsan, J. (2016). Pengembangan Media Pembelajaran Berbasis Android pada Materi Kelarutan untuk Meningkatkan Performa Akademik Peserta Didik SMA. *Jurnal Inovasi Pendidikan IPA*

Yulaika, N. F., Harti, & Sakti, N. C. (2020). Pengembangan bahan ajar elektronik berbasis flip book untuk meningkatkan hasil belajar peserta didik. *Jurnal Pendidikan Ekonomi, Manajemen Dan Keuangan*