

# Advancing MOOCs as a Mass Financial Literacy Medium to Achieve a Society of Financial Well-Being

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**Abstract.** Research shows that financial knowledge and literacy influence changes in the financial behavior of a society. Financial literacy is important not only due to the low income of a society but also mistakes in financial management. Therefore, adequate financial literacy is needed. The author proposes "Development of MOOCs as Massive Financial Literacy Media to Create a Society of Financial Well-Being " in the form of a web-based platform with a focus on increasing financial literacy. This study aims to increase financial literacy in the productive age, use objectively measurable financial understanding instruments, and support the Indonesian National Financial Literacy Strategy (SNLKI) policy. The 4D model development method is used to produce user-focused solutions with state-of-the-art technology and customized for business success. This innovation scored 35 and 14 in the validation test by learning media and learning materials experts, respectively.

**Keywords:** MOOC, Financial Literacy, Well-Being Society.

## 1 Introduction

Financial problems are complex issues that are not only related to individual or community income levels [1]. Although low income can be one of the contributing factors, many cases show that financial difficulties can also be caused by a lack of understanding and ability to manage finances effectively [2]. Even high-income people can face financial problems if they do not have sufficient knowledge of financial management [3].

Unfortunately, many people have limited understanding and ability to manage finances. It could be due to lacking formal financial education in schools or lacking access to financial resources and information. Many people grow up needing to understand basic concepts like managing a budget, paying their bills on time, or choosing the right financial products [6]. As a result, they can get caught in a cycle of debt and financial instability that is difficult to overcome.

Several solutions have been attempted to overcome the problem of the need for more financial management skills in the community. Several countries have tried to incorporate financial education into the school curriculum as a first step toward increasing the financial literacy of

the next generation [1]. In addition, many financial institutions and non-profit organizations have provided financial education programs to the general public, providing information on personal financial management and investments [1].

Although these efforts have helped improve financial understanding in the society, there are still some areas that need improvement. One of them is the limited accessibility and reach of traditional financial education programs [7]. Many people may need more time or opportunity to attend training or physical classes, which are often limited in number and location. In addition, some financial education programs are not really attractive and interactive, this making it difficult for them to attract participants' interest and attention [8].

The development of MOOCs (Massive Open Online Courses) can effectively overcome weaknesses related to the lack of financial management skills [9]. MOOCs are online learning platforms open to anyone and can be accessed en masse via the Internet. With MOOCs, financial literacy programs can be presented in a more flexible, interactive, and accessible way to anyone, from anywhere, and at anytime [9]. It enables the participation of more people in enhancing their financial understanding and skills.

In addition, MOOCs can also present learning materials in exciting and innovative ways, such as through videos, animations, and interactive simulations [10]. Doing so can increase participant interest and engagement, resulting in more effective learning. The use of technology in MOOCs also allows for real-time monitoring and assessment of participant progress so that participants can track progress and success in mastering financial literacy material.

By exploiting the potential of MOOCs as a medium for massive financial literacy, people can access the knowledge and skills needed to solve their financial problems more easily [11]. Thus, the development of MOOCs as a means of financial literacy can contribute significantly to realizing a society of financial well-being (Financial Well-Being Society).

## **2 Literature review**

In carrying out a strategy to increase financial literacy in Indonesia, the government makes effort that is divided into three main approaches [12]. The first, geographical approach, is based on regional advantages linked through literacy indexes and financial inclusion in the region so that it can classify financial literacy activity programs and provide financial services suitable for the community. Meanwhile, the target approach is conducted through literacy and inclusion indexes based on certain communities, for example, women, workers, and others. Through this approach, it is possible to identify the material and method of delivery that are most appropriate for a particular community. In this case, financial inclusion needs this approach to identify forms of access or services suitable for certain target communities that can match the needs and capabilities of the community. The last approach, the sectoral approach, forms the literacy and inclusion index in every financial service, such as the capital market, banking, financial institutions, pensions, and pawnshops. This approach is intended to determine what kind of services require optimal improvement in increasing financial literacy.

This National Strategy is a development from 2013 and was revised in 2017, focusing more on financial literacy in specific communities; through priority targets, it is expected to achieve financial literacy for Indonesian people. The condition of financial literacy in Indonesia today is still far from being fully literate and fully inclusive [13]; this is based on the Financial

Literacy Survey, which shows that, despite the increase, people's confidence in utilizing financial services is still limited [14]. Knowledge related to the benefits of services and products in financial services does not correspond with the knowledge of risks, costs, and obligations as a financial service .

The Financial Services Authority has three strategic programs: financial literacy, wise financial attitude and behavior, and access to finance. The financial services industry and other stakeholders can achieve these three programs. Following are the three government strategies to promote financial literacy in Indonesia [14]. Financial proficiency comprises of knowledge, skill, and belief. People who are incapable need in-depth knowledge of financial institutions and services, which include benefits, services, risks, fines, costs, and others. Wise financial attitudes begin with deciding the financial; financial goals are plans and management of finances in the short and long terms. Wise financial planning and management are expected to influence daily financial behavior. Wise financial skills and behavior supports the public to utilize financial institutions according to their needs and abilities. Therefore, it is necessary to expand access to finance as widely as possible to provide convenience for the public to access financial resources.

In the development of financial literacy, many studies have been conducted on implementing financial literacy [17]. Efforts to increase financial literacy are carried out through the financial services authorities, Bank Indonesia, and academics in the higher education[18]. This program is critical and is massive and sustainable in the community to eradicate financial illiteracy [1]. Several efforts to provide financial education have been carried out, including one by Kaiser and Lenkof [19], who developed a financial literacy module for MSMEs; the research was carried out until the validation stage but it required the development of a medium that was more interactive and more understandable to users in the field, especially MSMEs.

### **3 Methods**

The 4D model development method uses a systems approach that is structured and based on previous models and based on actual field experience in designing, developing, initiating, and disseminating teacher training materials in special education [34]. The following are the stages of this research:

The definit stage involved a needs analysis consisting of front-end analysis, student analysis, question analysis, concept analysis, and learning objectives determination. The team developed the product, which needed to refer to the development requirements. The team also analyzed and collected information on the extent of development needed to produce a higher quality product [34].

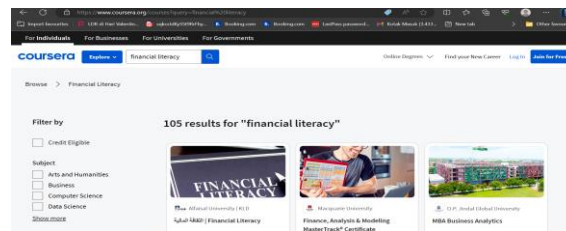
Next, in the the design stage, learning media was designed according to the results of the needs analysis. There were 4 steps that had to be followed at this stage, namely media selection, format selection, and initial design [34]. The team designed the interface and MPV planning, validated media and materials, and created a program manual.

Afterward, in the development stage, learning tools were developed. This stage produced a development product. This stage consisted of two steps, namely expert assessment accompanied by revision and development testing [35]. This development would create learning content and validated final revisions.

Finally, in the dissemination stage, the team promoted the developed product received by users by individuals, groups or systems. Packaging materials must be reflective to produce right form. There are three main stages in the disseminate stage, namely validation testing, packaging, and diffusion and adoption [35]. The media was introduced to university students.

## 4 Results and discussions

### 4.1 Define



**Fig. 1.** Preliminary analysis of existing websites.

Financial problems experienced by various groups have led to various financial management learning innovations, including Coursera. Coursera provides access to thousands of courses from leading universities and educational institutions. However, this website still needs to improve, including the relatively high fees and the fact that no specific and in-depth financial literacy courses are available. These weaknesses are used for the development of innovation in this study.

### 4.2 Design

The development of BelajarUang.id provides financial literacy education that involved gamification, which is sustainable for users and provides challenges in using the applications or features on BelajarUang.Id. The features of BelajarUang.Id applications are described in Table 1 below:

**Table 1.** Features available on Belajaruang.id.

No	Feature	Information
1	Registration	This feature is used to fulfill massive requirements that support registration; user registration is done directly on learning.id website or application and can be accessed by anyone regardless of their backgrounds
2	Start Studying	This feature contains a collection of lessons or levels that can be followed by learning participants, which can be sustainable because participants who take learning will reach a certain level and get points, and at a certain level, get a certificate after passing the finance course.
3	Course	It is a collection of courses that are classified based on particular topics that users can access to get specific certificates upon the completion of the course
4	Instructor Profile	Users can see the profiles of existing instructors to check the credibility of the presenters who provide material in this MOOCs program.

5	Partners	Parties that collaborate with LearningUang.In to provide courses through the platform of Belajaruang.id platform regarding to <i>financial literacy</i>
6	Quiz	This feature serves to test users's knowledge of finance
7	Financial Simulation	It contains digital cases and simulations for solving financial problems to support financial literacy practices

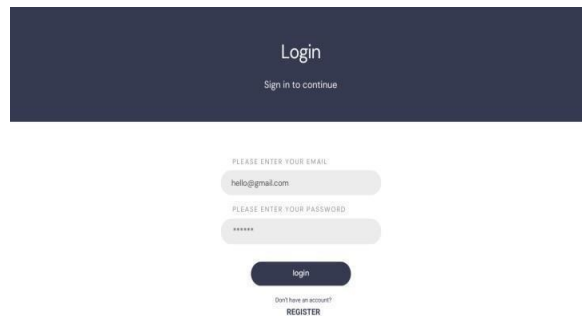


**Fig. 2.** Homepage view.

The Home section of the media displays all menu options that users can access, including the Academy menu (which contains financial literacy course), the Event menu (which contains financial-related events), the Community menu (to interact with fellow users), and the Promo menu (to discover special offers). In addition, there are buttons to log in, become a member, and join groups in the Telegram application to expand access to information and interaction with the community. A clean, structured appearance and easy-to-use navigation will increase users' convenience and ease of access in developing their financial literacy.

**Fig. 3.** Sign-up display.

The sign-up display provided for registering a user account contains several fields that a user must fill in. First, the user is asked to enter an email address that will be used as an account identification. Next, the user must choose and fill in a secure password to maintain account security. Finally, the date of birth must be filled in as additional information for identity verification and to ensure that the user meets the age requirements to use the service. By filling in the requested information correctly, users can successfully create an account and get access to various features and services available on the platform.



**Fig. 4.** Login view

After completing the registration process at the sign-up stage, the user will get an account registered on the platform. With this account, users can log in to enter the platform and get full access to the various available media and features. Through account login, users can access learning content, interact with fellow users, take courses, and take advantage of all services provided by the platform. As such, sign-up and login processes are crucial to providing a personalized user experience and providing full accessibility on the platform.



**Fig. 5.** Content display

On the homepage of the Development of MOOCs as Massive Financial Literacy Media, a display of material attracts the user's attention. The interactive and informative interface and modern features make it easier for users to choose courses that suit their needs in achieving financial stability and financial well-being.



**Fig. 6.** Material video display

The development of MOOCs as a massive financial literacy medium offers a variety of learning materials in the form of videos that users can access. These learning videos are

designed to present financial information and knowledge excitingly and interactively. Video material covers many essential topics, including personal financial management, financial planning, investing, budgeting, and debt management strategies. Users can access this material anytime and anywhere through the MOOCs platform, providing flexibility in learning. Through this innovative and easily accessible learning videos, it is expected that financial literacy can increase significantly among the public, supporting establishment of a Society of Financial Well-Being.

The membership offers display on the homepage is designed to attract visitors' attention and encourage them to join as members. This interface is designed to be as intuitive as possible to ensure a good user experience, with easy navigation and attractive visuals, thus encouraging more visitors to become active members.

### 4.3 Develop

Material that has been created and visualized will be validated by learning material experts. Learning material expert validation is used to assess the implementation of existing practicum simulations on website-based simulators on essential digital archiving competencies. There are several assessment aspects, such as presenting simulations, practical exercises, and simulation illustrations. This aspect is assessed because the implementation of the simulation must consider the needs of the curriculum. Aspects of Simulation Presentation

**Table 2.** Results of learning material expert validation aspects of simulation presentation.

No	Rated aspect	Score	Category
1	The suitability of the simulation display to the learning needs	5	Very appropriate, very effective, very detailed, very clear, and very easy to understand
2	Clarity of text on the simulation media	5	Very appropriate, very effective, very detailed, very clear, and very easy to understand
3	Clarity of language used in the simulation media	5	Very appropriate, very effective, very detailed, very clear, and very easy to understand
4	Coverage of the contents of the simulation media to meet practicum requirements	5	Very appropriate, very effective, very detailed, very clear, and very easy to understand
5	Program display in sequence and sequenced as needed	5	Very appropriate, very effective, very detailed, very clear, and very easy to understand
6	Type and size of the font in correlation with the needs	5	Very appropriate, very effective, very detailed, very clear, and very easy to understand
7	The media display catches the user's attention	5	Very appropriate, very effective, very detailed, very clear, and very easy to understand
<b>Amount</b>		<b>35</b>	
<b>Average</b>		<b>5</b>	<b>Very appropriate, very effective, very detailed, very clear, and very easy to understand</b>

Based on Table 2, the validation results in the presentation aspect of the simulation are seven indicators obtained from the presentation aspect of the simulation. The total score on the

aspect of presenting the simulation by learning material experts is 35, with seven indicators through the average assessment results and from learning material experts is 5; it can be concluded that the aspect of presenting the simulation is very appropriate, very effective, very detailed, very clear, and very easy understood.

Validation by learning media experts is carried out to assess products developed with a scientific focus on learning media development. These aspects include aspects of learning media presentation, namely by assessing presentation concepts, color combinations on simulator media, and image objects on simulator media buttons. Furthermore, the aspect of presenting the practicum simulator is by assessing the technique of presenting the simulator, the suitability of the type and size of the font, the suitability of the color of the buttons and navigation, and the suitability of the images and icons for facilitating practicum. Furthermore, the aspect of effectiveness is to assess students' interactivity responses, increase students' simulation learning motivation, and clarify program simulations.

**Table 3.** Aspects of simulation illustrations.

No	Rated aspect	Score	Category
1	The concept of serving media simulator	4	Appropriate, Effective, detailed, clear, easy to understand
2	Media simulator color combinations	5	Very appropriate, very effective, very detailed, very clear, and very easy to understand
3	Image object of button media simulator	5	Very appropriate, very effective, very detailed, very clear, and very easy to understand
	<b>Total Score</b>	14	
	<b>Average</b>	4.7	Appropriate, Effective, detailed, clear, easy to understand

The number of validation scores on learning material experts in the illustration aspect of the simulation is 14, with an average of 4.7. Based on this table, it can be concluded that the aspect of Media Presentation is Appropriate, Effective, detailed, clear, and easy to understand.

#### 4.4 Disseminate

Dissemination activities for financial literacy learning platform products have been socialized to the students of several vocational high schools and universities. This is an important step to ensure that these resources have a significant impact on students' understanding of personal finance. The dissemination activities that have been implemented created an environment that supports students in developing financial literacy and allows them to apply these concepts in their lives as students.

## 5 Conclusions

This research produced learning media products and cloud-based learning systems, which can be applied to cloud-based systems with practicum systems for various types of office management and office administration subjects. This learning media is equipped with various excellent practicums for students, which have been carried out at the national level by research teams so that researchers collaborate in research projects that researchers have carried out to be able to provide the best quality learning media to. As for the technology content provided, it has been developed to comply with the development of the industrial world which is used to



provide the best learning. The first is that it can provide learning according to the needs of students based on various case studies developed at various levels. It also provides learning for business according to industry needs. This technology is critical to be implemented in the education sector, especially those that have a practicum basis and are related to industry because the quality and flexibility that can be updated from time to time will significantly affect the quality of the media. In the long run, this product will be indirectly related to continuous learning.

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