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Effect of MOOC Learning Duration on Achievement of Learning Goals

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ABSTRACT

Background. Education in the 21st century has experienced significant changes with the development of digital technology. The use of media and technology in the learning process is becoming increasingly important to meet the demands of the times. One of the innovations that has emerged is the Massive Open Online Course (MOOC), an online learning platform that provides open access to learning materials from various fields globally. MOOCs promise great flexibility and accessibility, which can increase participation in education.

Purpose. This research aims to investigate the effect of MOOC learning duration on the achievement of educational students' learning objectives.

Method. The research method used is a quantitative approach with survey methods. A total of 30 education student respondents who had taken MOOC courses were the research subjects. Data was collected by filling out a questionnaire distributed via the WhatsApp group. Data analysis was carried out using the Miles Huberman technique to investigate the relationship between MOOC learning duration and achievement of learning objectives.

Results. The research results showed that the majority of participants felt that the MOOC learning duration provided benefits in understanding the learning material and increasing their learning motivation. However, some participants felt neutral regarding the contribution of learning duration in completing assignments and exams. The majority of respondents did not feel a significant impact of longer duration on achieving higher learning goals.

Conclusion. Although MOOC learning duration provides benefits in understanding the material and learning motivation, there are several aspects that need to be considered. The role of other factors such as the quality of learning materials and interaction between participants and instructors may be more important in achieving learning objectives. Therefore, course organizers need to continue to monitor participant feedback and evaluate the learning duration offered to improve the learning experience in MOOCs.

KEYWORDS

Education in the 21st Century, Higher Education, Massive Online Open Courses.

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INTRODUCTION

Education, as the foundation of individual formation and

societal evolution, is now experiencing a monumental shift through online learning approaches. In the digital era that we are currently enjoying, the concept of learning is no longer bound by traditional boundaries of time and space (Mamurov et al., 2020). The introduction of technology brings extraordinary innovations that enable students to access learning materials anytime, anywhere, and with more adaptive methods (Low et al., 2021). This dynamic creates a new paradigm in education, eliminates geographical limitations, and opens the door to global educational inclusivity.

The online learning approach not only breaks down geographical barriers, but also frees the teaching and learning process from the confines of conventional time (Li et al., 2021). In this context, technology becomes the main driver of change, enabling the learning process without being bound by old rules. Learners can design learning experiences that suit their rhythm and learning style, access resources instantly, and interact with instructors or fellow participants virtually (Hmedna et al., 2020). Thus, online learning provides extraordinary adaptability and creates a dynamic learning environment.

In the realm of online learning, a revolutionary force has emerged that is changing the educational paradigm: Massive Open Online Course (MOOC) (Chiappe & Wills, 2022). MOOCs are not just online courses, but rather a global movement that opens the door to open access to anyone, anywhere, without being limited by the number of participants (Lambert, 2020, pp. 2014–18). The flexibility of MOOCs creates a learning ecosystem that allows thousands of people to explore a wide range of learning materials from a variety of disciplines. This flexibility not only enriches the learning experience, but also opens up opportunities for lifelong learning, inspiring a spirit of scientific exploration and deep understanding of various fields of knowledge (Goldberg, 2022).

The development of MOOCs has had a significant positive impact on the transformation of global education (Saif et al., 2022). Leading educational institutions and industry players come together to contribute high-quality content, expanding the scope of knowledge accessible to the global community. MOOCs are not just a learning tool; it provides a platform for collaboration between academia and industry, ensuring that learning materials are aligned with job market demands (Mısır & Işık-Güler, 2022). Thus, MOOCs are not only a learning medium, but also a means of inclusion and global connectivity that supports the growth of knowledge and skills in this digital era.

The use of technology and MOOCs in online education opens the door to forming a generation that is skilled and knowledgeable globally (Elsafi & Al Awad, 2023). By freeing learning from physical and geographical limitations, online education through MOOCs provides equal access to knowledge, enriches understanding of the world, and builds bridges between various cultures (Rulinawaty et al., 2023). Thus, online education and MOOCs are not just about acquiring technical skills, but also about forming individuals who are able to adapt in an increasingly connected global society (Pillai & Sivathanu, 2019).

However, amidst the euphoria of the development of online learning and MOOCs, critical questions arise regarding their effectiveness and impact on achieving learning goals. Therefore, the formulation of this research problem is: “How does the duration of MOOC learning affect the achievement of education students’ learning objectives?” This research aims to identify and analyze the effect of MOOC learning duration on education students’ achievement of learning goals.

The research examined the factors influencing learner-centered success in Massive Open Online Courses (MOOCs), focusing on learner satisfaction and intention-fulfillment as outcome

measures. Unlike previous studies emphasizing retention and completion rates, this research prioritized learner intentions in non-formal lifelong learning settings. Data from 125 MOOC participants revealed that learner satisfaction was directly impacted by factors like the perceived importance of MOOC benefits, online self-regulated learning with goal setting, the number of video lectures accessed, and perceived course usability. Age and the number of quizzes indirectly affected satisfaction. Intention-fulfillment was directly influenced by gender, perceived importance of MOOC benefits, online self-regulated learning with goal setting, number of quizzes accessed, duration of participation, and perceived course usability. Previous MOOC experience and perceived importance indirectly influenced intention-fulfillment. The findings contribute valuable insights into factors shaping learner success in MOOCs within non-formal learning settings (Rabin et al., 2019).

Previous research was then conducted to explore the effectiveness of Massive Open Online Courses (MOOCs) in a blended-learning context, with a special focus on the problem of drop-out rates that often arise. This study adopted a mixed methods approach as a case exploration, with an emphasis on collecting quantitative and qualitative data. Data was collected through the MOOC Online Self-regulated Learning Questionnaire (MOSLQ) and analysis was carried out using the Statistical Package for the Social Sciences (SPSS) for quantitative data and transcription of focus group interviews for qualitative data. The findings show that aspects such as time management and goal setting play a crucial role in participants' Self-Regulated Learning (SRL) skills, although there are challenges related to participation and engagement in the survey. This research contributes to the understanding of the effectiveness of MOOCs in helping students regulate their own learning, with practical implications in the development of online learning platforms that support the development of self-directed learning skills (Onah et al., 2021).

Previous research further highlights the ongoing challenges facing Massive Open Online Courses (MOOCs), particularly related to high drop-out rates and low student achievement scores. Previous studies evaluating student performance in MOOCs generally used qualitative analysis and quantitative analysis with small samples. This study is the first to explore the general features of MOOCs on a large scale and measure the influence of these features on student performance. Using web-based online learning theory, this study uses two-stage K-means clustering to analyze more than 200 MOOCs involving approximately 300,000 students, identifying three patterns of course features among these MOOCs. MANOVA tests and further statistical tests revealed that these patterns of course features had significantly different effects on the drop-out rates and achievement scores of MOOCs students. The implications of these findings are discussed further (Xing, 2019).

Based on three previous studies, it appears that Massive Open Online Courses (MOOCs) have a significant impact on educational transformation, both in the blended-learning context and in the challenges of student performance. The first research highlights the importance of developing Self-Regulated Learning (SRL) skills in MOOCs, while the second research shows the crucial role of time management and goal setting in overcoming the drop-out rate problem. On the other hand, the third study broadens the view by analyzing the general features of MOOCs on a large scale and finding patterns of influence on student performance. Linking these findings to further research objectives, it can be concluded that MOOC learning duration requires a deep understanding of factors such as time management, goal setting, and course features. Therefore, further research is directed at comprehensively analyzing how the duration of MOOC learning can be optimized to achieve the learning goals of education students, taking into account the factors that have been identified from previous research.

It is hoped that the research results can contribute to further understanding of the effectiveness of online learning through MOOCs. The benefits involve improving learning design, developing

curriculum, and strengthening the efficiency of distance learning. This research will involve an analysis of the duration of MOOC learning and its impact on achieving learning objectives, taking into account the variables that influence these interactions. The hypothesis of this research is the duration of MOOC learning has a positive influence on the achievement of education students' learning goals. This research will use quantitative methods through a survey model, with 30 education student respondents as research subjects to test the validity of the hypothesis.

RESEARCH METHODOLOGY

This research will adopt a quantitative approach because it allows the collection of data that can be measured numerically, thus allowing a more in-depth statistical analysis of the relationship between MOOC learning duration and achievement of learning objectives (Saputra et al., 2023). The survey model was chosen as the main data collection tool because it allows researchers to obtain a broad view of respondents in a relatively short time (Ehwi et al., 2022).

The first step in this methodology is to design a survey instrument that suits the research objectives. The survey instrument will include questions related to the duration of the MOOC learning that the respondent participated in, as well as indicators of achievement of the learning objectives that will be assessed. The instrument will also contain demographic questions to collect information about the characteristics of the respondent. After the survey instrument is designed, researchers will use sampling techniques to select 30 respondents from the population of education students taking part in the MOOC.

The sampling technique that will be used is a simple random sample, where each member of the population has an equal chance of being selected as part of the sample (Casteel & Bridier, 2021). Once respondents are selected, the researcher will distribute the survey instruments to them. The data collection process will be carried out carefully and in a controlled manner to ensure the accuracy and reliability of the data obtained.

Next, the data collected will be analyzed using the Miles Huberman model. This analysis will involve the use of descriptive statistical techniques to describe sample characteristics and distribution of variables, as well as regression analysis to evaluate the relationship between MOOC learning duration and achievement of learning objectives. Regression analysis will allow researchers to identify how significant the influence of learning duration is on achieving learning objectives. Finally, the results of the analysis will be presented in the form of a comprehensive research report (Karimi-Ghartemani et al., 2022). This report will include a description of the research methodology, main findings, interpretation of the results, and practical implications and suggestions for future research. Thus, this research methodology will provide an in-depth view of the influence of MOOC learning duration on the achievement of learning objectives, which can provide valuable insights for the development and implementation of MOOCs in educational contexts.

RESULT AND DISCUSSION

Understanding and Basic Concepts of MOOC (Massive Open Online Course)

MOOC (Massive Open Online Course) is an innovation in the world of education that offers open access to online courses for anyone throughout the world (Sosa-Díaz & Fernández-Sánchez, 2020). The basic concept of a MOOC involves providing learning materials online without limiting the number of participants or formal registration requirements. By utilizing internet technology, MOOCs allow thousands to millions of participants to take courses in various fields of science,

ranging from natural sciences, social sciences, arts, engineering, to practical skills such as computer programming and business management (Koutsakas et al., 2020).

MOOC Characteristics (Pradubwate et al., 2020):

Massive: One of the main characteristics of MOOCs is their large scale. MOOC platforms can reach millions of participants worldwide, making them a very widespread and equitable learning tool.

Open: MOOCs offer open access to anyone interested, without requiring formal registration requirements or high fees. This creates more inclusive learning opportunities for individuals from diverse backgrounds.

Online Learning: MOOCs are carried out completely online through online learning platforms. Participants can access learning materials, complete assignments, and interact with instructors and fellow participants via the internet.

Time and Place Flexibility: One of the main advantages of MOOCs is their flexibility in terms of study time and place. Participants can access learning materials anytime and anywhere according to their own schedule and preferences.

Various Learning Materials: MOOCs offer a variety of courses and learning topics, from natural sciences, social sciences, arts, engineering, to practical skills such as computer programming and business management. This allows participants to choose courses that suit their interests and needs.

Interaction and Collaboration: Although learning takes place online, MOOCs often provide discussion forums, question-and-answer sessions, and collaborative projects to facilitate interaction between participants and instructors and between participants with each other. This creates a dynamic and interactive learning environment.

Evaluation and Certification: Most MOOCs offer a variety of evaluation systems, including online exams, assignments, and projects. Participants who successfully complete the course are usually awarded a certificate or other recognition of their achievements, which can enhance their grades and career opportunities.

With their unique characteristics, MOOCs have become a powerful tool in supporting accessibility, flexibility, and high quality learning for individuals around the world. Through MOOCs, education can be accessed by anyone, anywhere, and at any time, opening the door to limitless and inclusive learning opportunities (Ossiannilsson, 2021).

The implementation of MOOCs has had a significant impact in the world of education, both in formal and informal education contexts (Zulkifli et al., 2020). The following are some examples of MOOC implementation:

Higher Education; a) Many top colleges and universities around the world have utilized MOOCs to offer online courses to their students (Ayoub et al., 2020). For example, Harvard University, Massachusetts Institute of Technology (MIT), and Stanford University have hosted various MOOC courses that are open to anyone interested, b) Some educational institutions also use MOOCs as part of their degree programs. For example, the University of Illinois offers a Bachelor's degree in Computer Science that is based entirely on MOOC courses that can be accessed online.

Professional Training; a) MOOCs are used as a tool for employee training and development in various industries. Large companies such as Google, Microsoft, and IBM have partnered with MOOC platforms to provide training courses in areas such as information technology, project management, and soft skills, b) Non-profit organizations are also utilizing

MOOCs to provide training to individuals who want to improve their skills in areas such as public health, sustainable development, and social entrepreneurship.

K-12 Education; a) MOOCs are not only limited to higher education, but have also been used in elementary and secondary education. Some schools and school districts have utilized MOOCs to provide access to supplemental curriculum, additional learning materials, and academic support for students who need it, b) Teachers are also using MOOCs to improve their teaching skills, access new educational resources, and collaborate with fellow educators around the world.

Informal Education and Lifelong Learning; a) MOOCs provide individuals outside of formal educational institutions the opportunity to continue learning and developing their skills throughout life. The general public can access MOOC courses on a variety of topics such as art, music, languages, and other practical skills, b) Independent study groups and online communities also use MOOCs as a platform to study certain topics together and share knowledge and experiences.

Through the implementation of MOOCs in various educational sectors, access to quality education has been significantly expanded, and individuals from various backgrounds and geographic locations can gain the knowledge and skills they need to thrive and succeed in their lives (Bordoloi et al., 2020).

Theories that support the relationship between learning duration and achievement of learning goals

Several theories that support the relationship between learning duration and achievement of learning goals include (Veldkamp et al., 2020):

Spatial Learning Theory

This theory states that adequate learning duration allows the brain to process information more effectively (Sweller, 2020). By providing sufficient time to understand the material, students can relate new concepts to existing knowledge, facilitating the formation of deeper understanding and promoting the achievement of learning goals.

Cognitive Learning Theory

This theory emphasizes the importance of the time required to consolidate new information into long-term memory (Wirth et al., 2020). Adequate learning duration allows cognitive processes such as coding, storing, and retrieving information to occur effectively, which in turn supports the achievement of learning goals.

Information Processing Theory

This theory proposes that the human brain has a limited capacity to processing information simultaneously (Doerig et al., 2021). By providing sufficient time for learning, students can allocate their cognitive resources efficiently, allowing them to understand, analyze, and assimilate information better to achieve learning goals.

Motivation Theory

Motivation theory suggests that adequate learning duration can influence students' motivation levels. When students feel that they have enough time to digest the material and achieve learning goals, their motivation to learn and achieve the desired results increases.

Multiple Intelligences Theory

This theory states that each individual has different learning tendencies. unique based on different types of intelligence. Adequate learning duration allows students to explore and

develop various aspects of their intelligence, thereby facilitating the achievement of learning goals holistically.

The following is an example of a questionnaire with questions and answer options that have been provided by the researcher. The researcher distributed the questionnaire to 30 education students who had studied educational sciences such as educational psychology, educational administration and the ins and outs of preparing teaching and learning materials. Then the campus has also used MOOCs to make it easier for lecturers and students to achieve their learning goals. So, according to the researchers, it is suitable to be used as a respondent, even though they have not been directly involved in the field, but they already have experience such as Teaching Practice at school which was carried out for approximately 3 months of teaching.

The first question, How effective is the duration of the MOOC learning that you participated in in helping you understand the learning material? With answer options: Very Ineffective, Ineffective, Neutral, Effective and Very Effective. With the results obtained as follows:

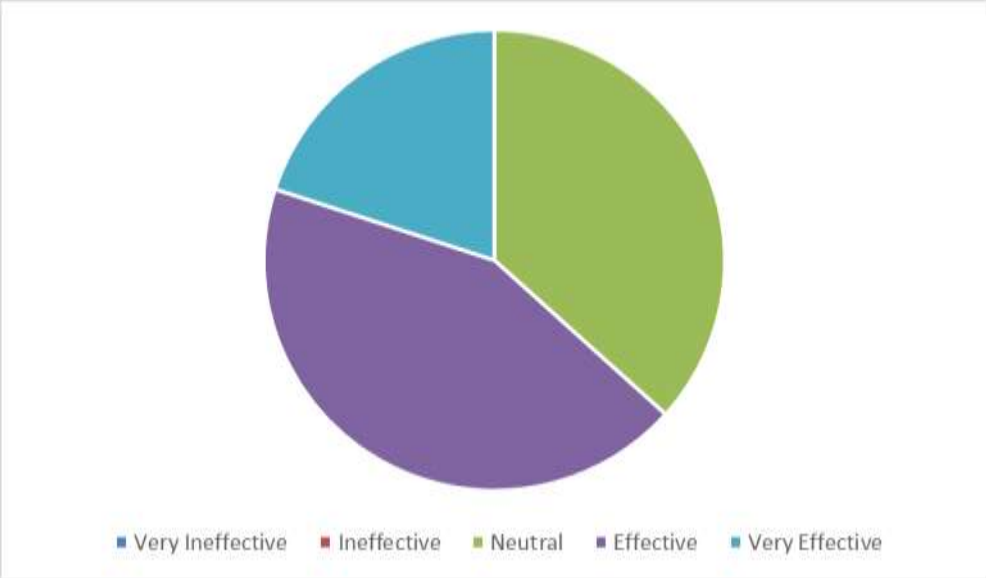

Figure 1. The effectiveness of the MOOC learning duration you followed in helping respondents understand the learning material

From the results of the answers given, it can be seen that the majority of respondents (13 people) rated the MOOC learning duration as effective, followed by 11 people who felt neutral, and 6 people who rated the learning duration as very effective. There were no respondents who felt that the MOOC learning duration was very ineffective or ineffective. This shows that the majority of participants felt that the MOOC learning duration made a positive contribution to their understanding of the learning material.

Further analysis showed that there was a diversity of perceptions among respondents regarding the effectiveness of the MOOC learning duration. Although the majority of respondents stated that the duration of learning was effective or very effective, there were also a number of respondents who were neutral on this matter. This could be due to factors such as different learning styles, the complexity of the learning material, or the level of time availability each participant has.

From the perspective of course development and online learning, these results provide valuable insight. Course organizers can use this information to evaluate and improve the learning duration in their MOOCs, taking into account participants' preferences and needs. For example, course organizers can consider adjusting the learning duration to the level of complexity of the

material, as well as providing additional options to support participants who feel neutral about the learning duration.

Therefore, it is important to continue to pay attention to feedback from participants and carry out regular evaluations of the learning process in MOOCs. In this way, course organizers can ensure that the duration of learning offered is in line with participants' needs and expectations, thereby increasing the effectiveness of learning and achieving overall learning objectives.

The next question, How appropriate is the duration of MOOC learning to your needs to achieve learning objectives? With the following answer options: Very Unsuitable, Not Appropriate, Neutral, Suitable and Very Suitable. With the results of the answers after being collected, namely:

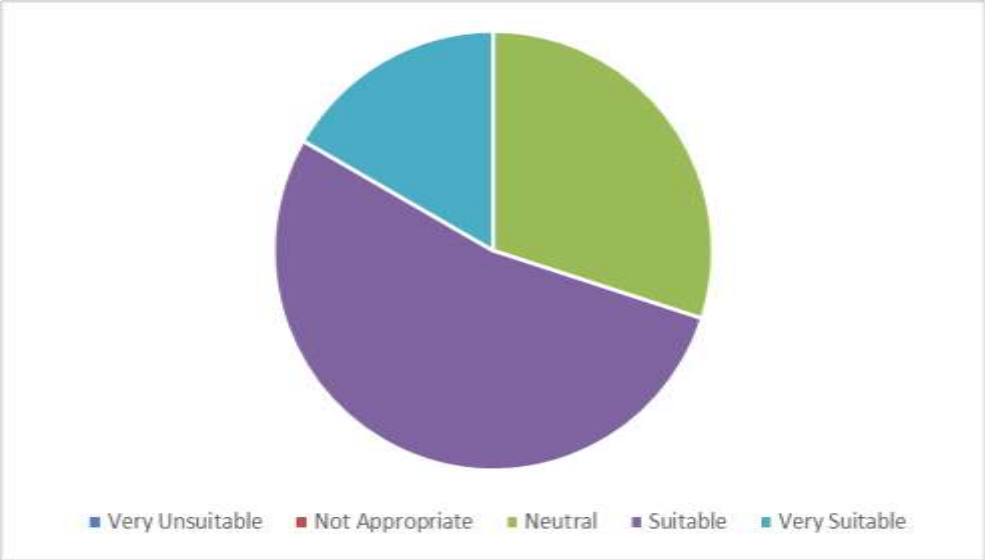

Figure 2. Suitability of MOOC learning duration with respondents' needs to achieve learning objectives

Based on the results of the answers given, the majority of respondents (16 people) stated that the duration of MOOC learning was in accordance with their needs to achieve learning objectives. Apart from that, 9 respondents stated that they felt neutral regarding whether the learning duration was appropriate or not, while 5 people stated that the learning duration was very suitable to their needs. From these results, it can be concluded that the majority of participants felt that the learning duration in the MOOC was sufficient to meet their needs in achieving learning objectives.

However, it is important to note that there were a number of respondents who felt neutral regarding the suitability of the learning duration to their needs. This suggests that there is variation in participants' perceptions regarding the extent to which MOOC learning duration can meet individual learning needs. Factors such as the complexity of the material, participants' initial skill level, and each individual's learning preferences may influence these perceptions.

From the perspective of course organizers, these results provide valuable insight into the design and management of learning duration in MOOCs. Course organizers need to consider participants' learning needs and preferences when determining appropriate learning duration. In addition, course organizers can use feedback from participants to adjust the learning duration according to the level of complexity of the material and individual learning needs.

Thus, it is important to continue to pay attention to participant feedback and carry out regular evaluations of the learning duration in MOOCs. In this way, course organizers can ensure that the

duration of learning offered is in line with participants' needs and expectations, thereby increasing the effectiveness of learning and achieving overall learning objectives.

The next question is, what is your level of understanding of the learning material during the MOOC learning duration? With the following answer options: Very Little Understand, Little Understanding, Neutral, Understand and Very Understand. With the results of respondents' answers as follows:

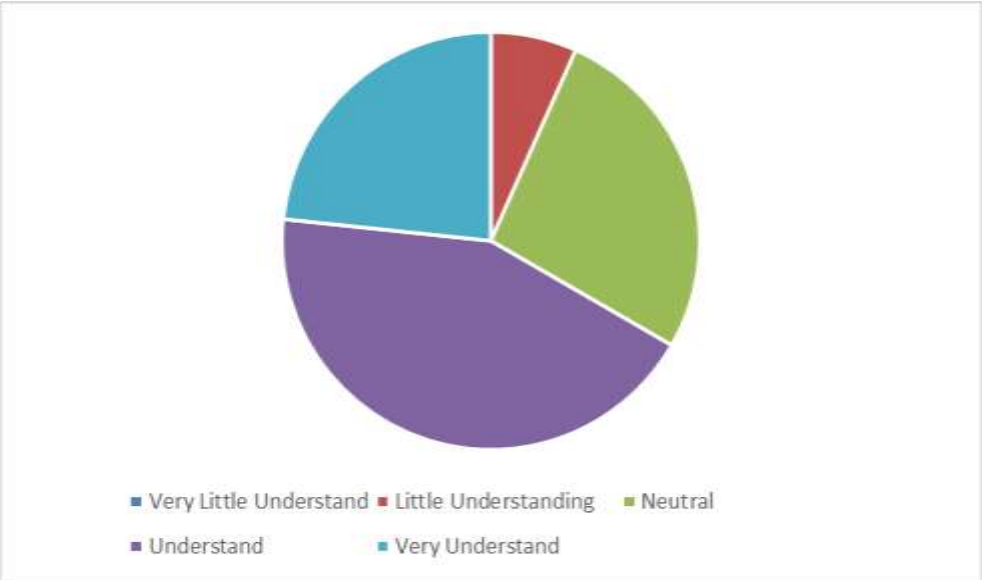

Figure 3. Respondents' level of understanding of the learning material during the MOOC learning duration

From the results of the answers given, the majority of respondents (13 people) stated that they felt they understood the learning material during the MOOC learning duration. Apart from that, 7 respondents stated that they felt they really understood, while 8 people felt neutral, and only 2 people felt they did not understand the learning material. These results indicate that the majority of participants felt that they had understood the learning material within the MOOC learning duration, with a small number of participants feeling that they did not understand.

However, it should be noted that there were a number of respondents who felt neutral regarding their level of understanding of the learning material. This shows that although the majority of participants feel they understand or really understand, there are also those who still feel doubtful or unsure regarding their understanding of the learning material within the MOOC learning duration.

From the perspective of course organizers, these results indicate that the majority of participants have succeeded in understanding the learning material within the MOOC learning duration. However, course organizers need to pay attention to participants who still feel they don't understand or are neutral about their level of understanding. Additional steps such as providing additional materials, question and answer sessions, or consultations with instructors can help participants improve their understanding of the learning material.

Thus, it is important for course organizers to continuously monitor and evaluate the level of participants' understanding of the learning material in the MOOC. By providing additional support to participants who need it, course organizers can increase the effectiveness of learning and ensure that participants can better achieve their learning goals.

The next question, to what extent do you feel that the duration of MOOC learning helps you complete assignments and exams well? With the following answer options: Very Unhelpful, Not Helpful, Neutral, Helpful and Very Helpful. With the results of respondents' answers as follows:

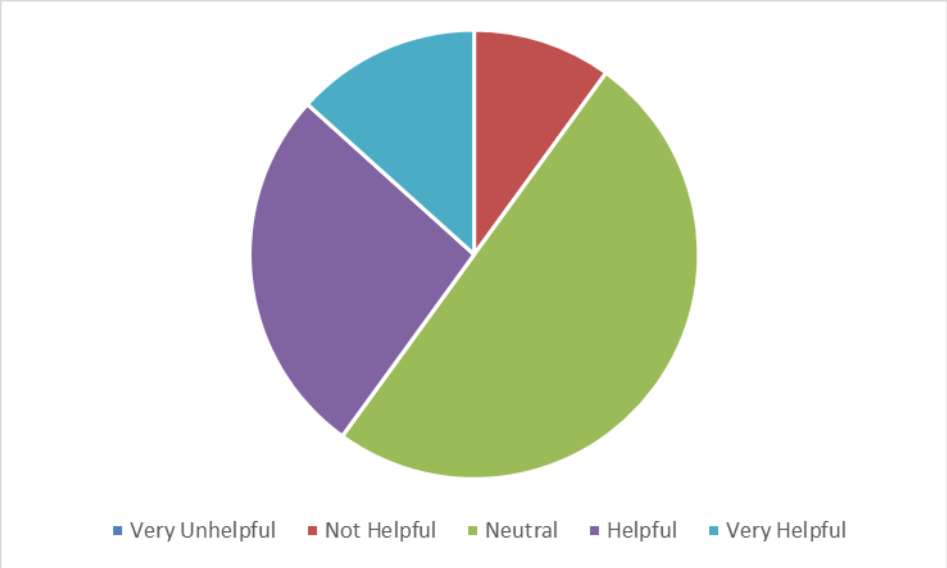

Figure 4. MOOC learning duration helps to complete assignments and exams well

Based on the results of the answers given, the majority of respondents (15 people) stated that they felt neutral regarding the extent to which the duration of MOOC learning helped them complete assignments and exams well. In addition, 8 respondents stated that the learning duration helped them, and 4 people felt that the learning duration was very helpful. However, there were also 3 respondents who stated that the learning duration did not help them complete assignments and exams well.

From these results, it appears that there is a diversity of perceptions among participants regarding the contribution of MOOC learning duration in helping them complete assignments and exams. Although the majority of respondents felt neutral or that the learning duration was helpful, there were also a number of respondents who felt that the learning duration did not make a significant contribution to their success in completing assignments and exams.

In this context, it is important for course organizers to pay attention to feedback from participants related to their experience in completing assignments and exams. It may be necessary to evaluate the types of assignments and exams provided in the MOOC and the extent to which the learning duration can support participants in completing these assignments and exams well.

In addition, course organizers may consider providing additional help, guidance, or supporting resources others to help participants complete assignments and exams better. Thus, it is hoped that the contribution of MOOC learning duration to the achievement of learning objectives can be increased overall.

The next question, Do you feel that the duration of MOOC learning contributes positively to achieving your learning goals? With the following answer options: Very Not Contributing, Not Contributing, Neutral, Contributing and Very Contributing. With the following respondent results:

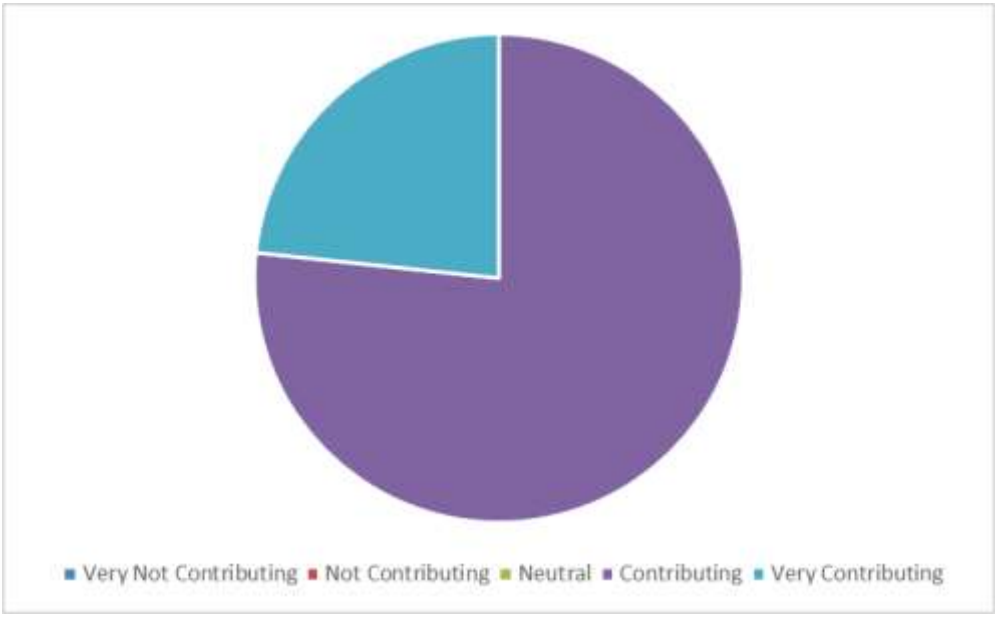

Figure 5. The duration of MOOC learning makes a positive contribution to achieving learning objectives

From the results of the answers given, the majority of respondents (23 people) stated that they felt the duration of MOOC learning contributed to achieving their learning goals. In addition, 7 respondents stated that the learning duration greatly contributed to achieving their learning goals. From these results, it can be concluded that the majority of participants felt that the MOOC learning duration had a positive contribution to achieving their learning goals. These results indicate that learning duration in MOOCs plays an important role in helping participants achieve the set learning objectives.

In this context, it is important for course organizers to maintain effective learning duration in their MOOCs. In addition, course organizers can also evaluate participants' needs and preferences regarding learning duration to ensure that the learning duration offered can meet participants' expectations and support them in achieving learning goals. Thus, these results provide a positive indication regarding the contribution of duration MOOC learning towards achieving participants' learning objectives. By paying attention to feedback from participants and carrying out regular evaluations of the duration of learning in MOOCs, it is hoped that course organizers can continue to improve the effectiveness of learning and provide a better learning experience for participants.

Next question, To what extent do you feel your learning motivation has increased due to the duration of the MOOC learning? With answer options: Very Not Increased, Not Improved, Neutral, Increased and Very Improved. With the results of respondents' answers as follows:

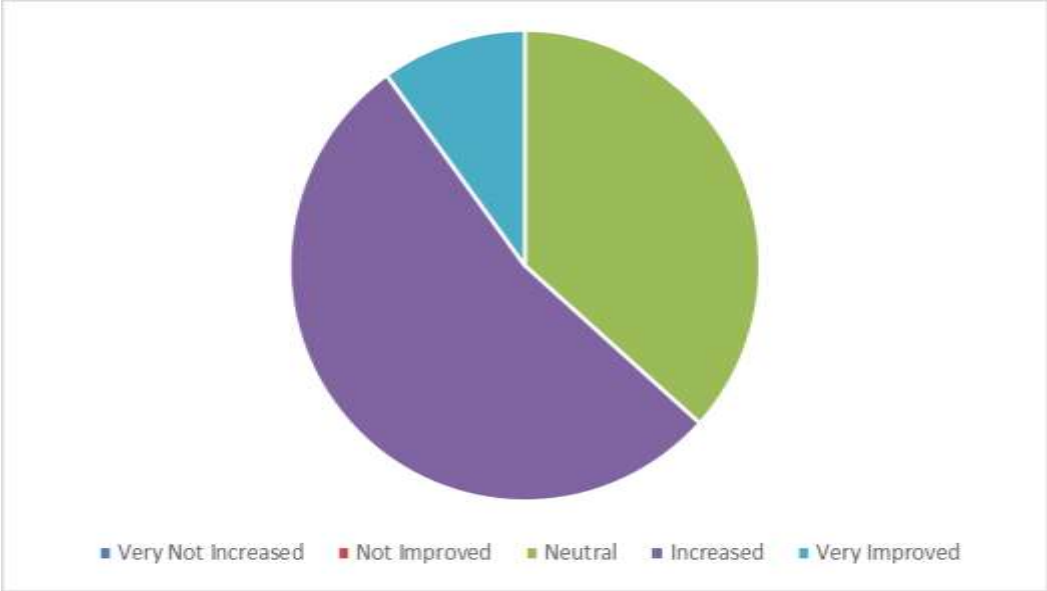

Figure 6. To what extent do respondents feel your learning motivation has increased due to the MOOC learning duration

Based on the results of the answers given, the majority of respondents (16 people) stated that they felt their learning motivation had increased because of the duration of the MOOC learning. In addition, 3 respondents stated that their learning motivation had greatly increased, while 11 people felt neutral regarding the increase in their learning motivation. There were no respondents who stated that their learning motivation did not increase or did not increase very much.

From these results, it appears that the majority of participants felt that the duration of learning in the MOOC had a positive impact on increasing their learning motivation. These results indicate that the learning experience in MOOCs is able to motivate participants to be more actively involved in the learning process. However, it is important to note that there are also a number of participants who feel neutral regarding increasing their learning motivation. This suggests that the experience of learning motivation may vary between individuals, and factors such as the type of learning materials, teaching methods, or learning preferences may influence a person's level of learning motivation.

From the perspective of course organizers, these results indicate that course organizers need to continue to pay attention factors that can influence participants' learning motivation in MOOCs. They can consider various motivational strategies, such as providing positive feedback, providing appropriate challenges, or presenting interesting content, to help increase participants' learning motivation. Thus, these results provide a positive indication that the duration of learning in MOOCs is able to influence improvement participant learning motivation. By keeping participants' needs and preferences in mind, course organizers can ensure that the learning experience in a MOOC motivates participants to reach their best learning potential.

Final question, Do you think that a longer MOOC learning duration has an effect on achieving higher learning goals? With answer options: Very Not Influenced, Not Influenced, Neutral, Influenced and Very Influenced. With the results of the respondents' answers as follows:

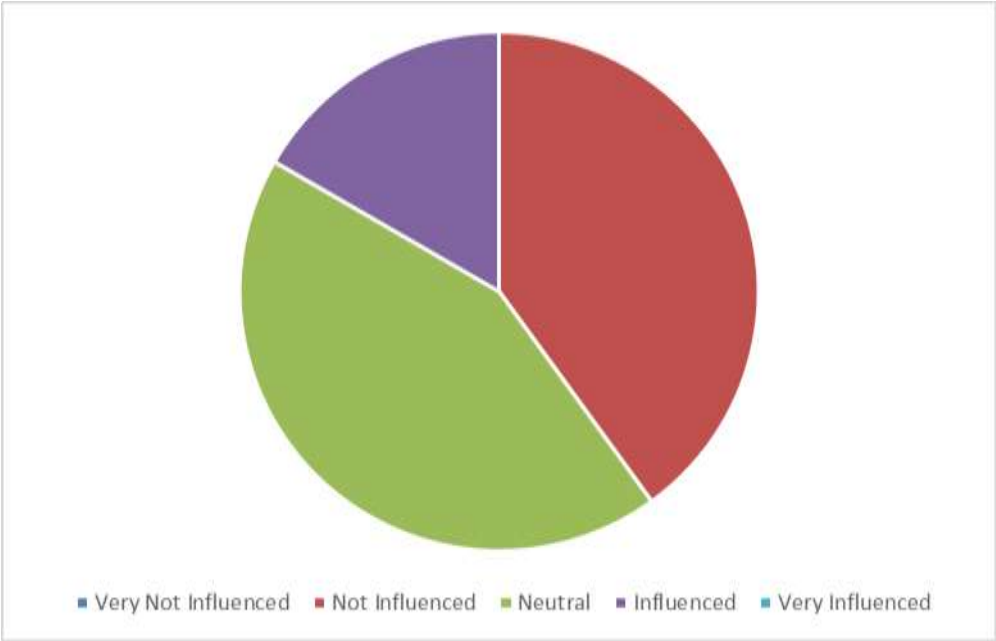

Figure 7. Longer duration of MOOC learning has an effect on achieving higher learning objectives

Based on the results of the answers given, the majority of respondents (13 people) stated that they felt that the longer MOOC learning duration had no effect on achieving higher learning goals. In addition, 5 respondents stated that a longer learning duration had an effect on achieving higher learning goals, while 12 people felt neutral regarding the effect of a longer learning duration.

From these results, it can be seen that there is a diversity of perceptions among participants related to the effect of longer MOOC learning duration on achieving higher learning goals. Although the majority of respondents felt that longer learning durations did not have a significant effect, there were also a number of respondents who felt that longer learning durations could have a positive effect on achieving higher learning goals.

In this context, more research is needed further to understand what factors can influence participants' perceptions regarding the effect of longer learning duration on achieving learning goals. In addition, course organizers need to pay attention to feedback from participants to evaluate whether the learning duration offered is in line with participants' needs and expectations.

Thus, these results provide valuable insight for course organizers to understand participants' perceptions regarding the influence of learning duration. longer in MOOCs. By paying attention to feedback from participants and carrying out regular evaluations of learning duration, it is hoped that course organizers can increase the effectiveness of learning and provide a better learning experience for participants.

CONCLUSION

Based on the results of the questionnaire given to respondents, it can be concluded that the majority of participants felt the benefits of the MOOC learning duration in understanding the learning material. They consider this duration to be effective and in accordance with their needs in achieving learning goals. However, some participants felt neutral about the contribution of learning duration in completing assignments and exams. This shows that there are variations in perceptions among participants regarding the concrete impact of learning duration on their academic performance. However, in general, the majority of participants felt that the MOOC learning

duration made a positive contribution to achieving their learning goals and increased learning motivation.

Although the majority of participants felt that the MOOC learning duration provided benefits, there are several aspects that course organizers need to pay attention to. One of them is the relationship between longer learning duration and higher achievement of learning goals. The majority of respondents did not feel a significant impact of longer duration on achieving higher learning goals. This suggests that other factors, such as the quality of learning materials or interactions between participants and instructors, may have a greater role in achieving learning objectives.

In order to increase the effectiveness of learning in MOOCs, it is important for course organizers to continuously monitor participant feedback and evaluation of the duration of learning offered. By paying attention to participants' needs and preferences and considering various factors that can influence the achievement of learning objectives, course organizers can improve the quality and relevance of the learning duration in MOOCs, thereby providing a better learning experience for participants.

AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

Author 4: Formal analysis; Methodology; Writing - original draft.

Author 5: Supervision; Validation.

REFERENCES

Ayoub, A., Amin, R., & Wani, Z. A. (2020). Contribution of developed countries towards MOOCs: An exploration and assessment from a representative platform Coursera. *Asian Association of Open Universities Journal*, *15*(2), 251–262. https://doi.org/10.1108/AAOUJ-03-2020-0016

Bordoloi, R., Das, P., & Das, K. (2020). Lifelong learning opportunities through MOOCs in India. *Asian Association of Open Universities Journal*, *15*(1), 83–95. https://doi.org/10.1108/AAOUJ-09-2019-0042

Casteel, A., & Bridier, N. (2021). Describing Populations and Samples in Doctoral Student Research. *International Journal of Doctoral Studies*, *16*, 339–362. https://doi.org/10.28945/4766

Chiappe, A., & Wills, A. E. (2022). Crowd-based Open Online Education as an alternative to the Covid-19 educational crisis. *Ensaio: Avaliação e Políticas Públicas Em Educação*, *30*(114), 32–51. https://doi.org/10.1590/s0104-403620210002903341

Doerig, A., Schurger, A., & Herzog, M. H. (2021). Hard criteria for empirical theories of consciousness. *Cognitive Neuroscience*, *12*(2), 41–62. https://doi.org/10.1080/17588928.2020.1772214

Ehwi, R. J., Oti-Sarpong, K., Shojaei, R., & Burgess, G. (2022). Offsite Manufacturing Research: A Systematic Review of Methodologies Used. *Construction Management and Economics*, *40*(1), 1–24. https://doi.org/10.1080/01446193.2021.2007537

Elsafi, A., & Al Awad, Y. (2023). Expert Opinions on MOOCs Challenges: Rethinking of Emerging Pedagogies. In S. Goundar (Ed.), *Massive Open Online Courses—Current Practice and Future Trends*. IntechOpen. https://doi.org/10.5772/intechopen.1001081

Goldberg, H. (2022). Growing Brains, Nurturing Minds—Neuroscience as an Educational Tool to Support Students' Development as Life-Long Learners. *Brain Sciences*, *12*(12), 1622. https://doi.org/10.3390/brainsci12121622

Hmedna, B., El Mezouary, A., & Baz, O. (2020). A predictive model for the identification of learning styles in MOOC environments. *Cluster Computing*, *23*(2), 1303–1328. https://doi.org/10.1007/s10586-019-02992-4

Karimi-Ghartemani, S., Khani, N., & Nasr Isfahani, A. (2022). A qualitative analysis and a conceptual model for organizational stupidity. *Journal of Organizational Change Management*, *35*(3), 441–462. https://doi.org/10.1108/JOCM-04-2021-0099

Koutsakas, P., Karagiannidis, C., Politis, P., & Karasavvidis, I. (2020). A computer programming hybrid MOOC for Greek secondary education. *Smart Learning Environments*, *7*(1), 7. https://doi.org/10.1186/s40561-020-0114-1

Lambert, S. R. (2020). Do MOOCs contribute to student equity and social inclusion? A systematic review 2014–18. *Computers & Education*, *145*, 103693. https://doi.org/10.1016/j.compedu.2019.103693

Li, W., Gillies, R., He, M., Wu, C., Liu, S., Gong, Z., & Sun, H. (2021). Barriers and facilitators to online medical and nursing education during the COVID-19 pandemic: Perspectives from international students from low- and middle-income countries and their teaching staff. *Human Resources for Health*, *19*(1), 64. https://doi.org/10.1186/s12960-021-00609-9

Low, M. C., Lee, C. K., Sidhu, M. S., Lim, S. P., Hasan, Z., & Lim, S. C. (2021). Blended Learning to Enhanced Engineering Education using Flipped Classroom Approach: An Overview. *Electronic Journal of Computer Science and Information Technology*, *7*(1). https://doi.org/10.52650/ejcsit.v7i1.111

Mamurov, B., Mamanazarov, A., Abdullaev, K., Davronov, I., Davronov, N., & Kobiljonov, K. (2020). Acmeological Approach to the Formation of Healthy Lifestyle Among University Students. *Proceedings of the III International Scientific Congress Society of Ambient Intelligence 2020 (ISC-SAI 2020)*. III International Scientific Congress Society of Ambient Intelligence 2020 (ISC-SAI 2020), Kryvyi Rih, Ukraine. https://doi.org/10.2991/aebmr.k.200318.043

Mısır, H., & Işık-Güler, H. (2022). "Be a better version of you!": A corpus-driven critical discourse analysis of MOOC platforms' marketing communication. *Linguistics and Education*, *69*, 101021. https://doi.org/10.1016/j.linged.2022.101021

Onah, D. F. O., Pang, E. L. L., Sinclair, J. E., & Uhomoibhi, J. (2021). An innovative MOOC platform: The implications of self-directed learning abilities to improve motivation in learning and to support self-regulation. *The International Journal of Information and Learning Technology*, *38*(3), 283–298. https://doi.org/10.1108/IJILT-03-2020-0040

Ossiannilsson, E. (2021). Human Rights and Social Justice through Open Educational Resources and Lifelong Learning. *Macro Management & Public Policies*, *3*(1), 27–36. https://doi.org/10.30564/mmpp.v3i1.2925

Pillai, R., & Sivathanu, B. (2019). An empirical study on the online learning experience of MOOCs: Indian students' perspective. *International Journal of Educational Management*, *34*(3), 586–609. https://doi.org/10.1108/IJEM-01-2019-0025

Pradubwate, R., Pheeraphan, N., Sirawong, N., & Trirat, N. (2020). Characteristics and Learning Behavior of Active Learners on SWU-MOOC. *Proceedings of the 2020 11th International Conference on E-Education, E-Business, E-Management, and E-Learning*, 158–162. https://doi.org/10.1145/3377571.3377603

Rabin, E., Kalman, Y. M., & Kalz, M. (2019). An empirical investigation of the antecedents of learner-centered outcome measures in MOOCs. *International Journal of Educational Technology in Higher Education*, *16*(1), 14. https://doi.org/10.1186/s41239-019-0144-3

Rulinawaty, R., Priyanto, A., Kuncoro, S., Rahmawaty, D., & Wijaya, A. (2023). Massive Open Online Courses (MOOCs) as Catalysts of Change in Education During Unprecedented Times: A Narrative Review. *Jurnal Penelitian Pendidikan IPA*, *9*(SpecialIssue), 53–63. https://doi.org/10.29303/jppipa.v9iSpecialIssue.6697

Saif, S. M., Ansarullah, S. I., Ben Othman, M. T., Alshmrany, S., Shafiq, M., & Hamam, H. (2022). Impact of ICT in Modernizing the Global Education Industry to Yield Better Academic Outreach. *Sustainability*, *14*(11), 6884. https://doi.org/10.3390/su14116884

Saputra, P., Rasyid, I., Fitria, A., Rahmawati, R., & Ahmadi, Y. (2023). Exploring the Influence of the Social Environment on the Use of Arabic in Higher Education: A Survey Research. *Islamic Manuscript of Linguistics and Humanity*, *5*(2), 14–24.

Sosa-Díaz, M. J., & Fernández-Sánchez, M. R. (2020). Massive Open Online Courses (MOOC) within the Framework of International Developmental Cooperation as a Strategy to Achieve Sustainable Development Goals. *Sustainability*, *12*(23), 10187. https://doi.org/10.3390/su122310187

Sweller, J. (2020). Cognitive load theory and educational technology. *Educational Technology Research and Development*, *68*(1), 1–16. https://doi.org/10.1007/s11423-019-09701-3

Veldkamp, A., Van De Grint, L., Knippels, M.-C. P. J., & Van Joolingen, W. R. (2020). Escape education: A systematic review on escape rooms in education. *Educational Research Review*, *31*, 100364. https://doi.org/10.1016/j.edurev.2020.100364

Wirth, J., Stebner, F., Trypke, M., Schuster, C., & Leutner, D. (2020). An Interactive Layers Model of Self-Regulated Learning and Cognitive Load. *Educational Psychology Review*, *32*(4), 1127–1149. https://doi.org/10.1007/s10648-020-09568-4

Xing, W. (2019). Exploring the influences of MOOC design features on student performance and persistence. *Distance Education*, *40*(1), 98–113. https://doi.org/10.1080/01587919.2018.1553560

Zulkifli, N., Hamzah, M. I., & Bashah, N. H. (2020). Challenges to Teaching and Learning Using MOOC. *Creative Education*, *11*(03), 197–205. https://doi.org/10.4236/ce.2020.113014