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Learning Behaviour Towards MOOCS: Data Analysis Through Excel in Research (Dater) Under UNESCO

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Abstract

MOOCs is a flexible online learning. Which brings together all the learners of the same interest at the global level. It emphasizes on learning by overcoming and leaving aside weak points like hesitation to understand something from any experts, geographical distance etc. At each stage of life, one can learn new things and expand their knowledge. If the reasons for non-completion of MOOCs are corrected, it can be made popular. The data in this study was collected through the MOOCs course DATER

(Data Analysis Through excel in Research). It was studied what problems observed in completing the MOOCs DATER **(Data Analysis Through excel in Research)**. The study observed the learning behaviour towards MOOCs. What was the reaction of learners to the MOOCs, how do they perceive the MOOCs. Do they want to learn through it? If they want to learn through MOOCs, then why not complete it. What issues and challenges need to be resolved in order for everyone who wants to learn through MOOCs to complete it successfully.This paper acts as a bridge between the learners and the MOOCs developers. Definitely, this study is determined how beneficial having MOOCs is for learners and ways to lower dropout rates.

Keywords: *Behaviour; Data Analysis; DATER; Excel, Research, MOOCs, Learning.*

Introduction

Online education has been going on for a long time, but after the arrival of Covid-19, it was considered necessary for education to be online. To continue education and learning through online learning, MOOCs must be developed while upholding the quality of education. Anyone in the entire world can enrol in a MOOCs at any time and it is flexible. It makes it simple and effortless to acquire new techniques and increase one's skills.

On National level, taking an initiative, from the Government of India for online courses in India with the aim to promote the quality in Education and Research, SWAYAM was made available as a platform at the national level. and appointed nine coordinators.

1. IGNOU (Indira Gandhi National Open University) for out-of-school students
2. AICTE (All India Council for Technical Education) for self-paced and international courses
3. UGC (University Grants Commission) for non technical post-graduation education
4. CEC (Consortium for Educational Communication) for under-graduate education
5. NCERT (National Council of Educational Research and Training) for school education

6. NIOS (National Institute of Open Schooling) for school education

7. NPTEL (National Programme on Technology Enhanced Learning) for Engineering

8. IIMB (Indian Institute of Management, Bangalore) for management studies

9. NITTTR (National Institute of Technical Teachers Training and Research) for Teacher Training programme

The developer of MOOCs is also given financial support for this through the University Grants Commission (UGC). Additionally, the UNESCO has begun mentor programmes and other initiatives on an international level. where promotion for various types of online courses has been made.

DATER (Data Analysis Through excel in Research): The five-week MOOCs course DATER was developed under the project of UNESCO (United Nations Educational, Scientific, and Cultural Organization) with the aim of enhancing research through the development of data skills. It teaches statistical applications through the use of MS EXCEL to make research easy for scholars, teachers and policy makers. A conclusion can be drawn after data analysis. There is learning material available in the form of videos, texts, and PDFs. Assignments and quizzes must be completed in order to receive a certificate and check the learning.

Review Of Literature

Highlights some studies of national and international researchers and scientists:

Albelbisi, Al-Adwan and Habibie[2] (2023) conducted the study to find out what factors influence the completion of MOOCs in higher education. For which postgraduate level students were taken from two Malaysian Universities. Opportunities and Challenges were the two main themes chosen for the thematic analysis. In this, it was found that a total of 12 factors affect the adoption of MOOCs. Seven Factor for Opportunities in using of MOOCs such as Enhancing Higher Education Systems, Supporting Life Long Learning, accessibility, interactivity, flexibility, personal interaction, and a positive attitude towards the use of MOOCs, and the five subfactors for the challenges in using of MOOCs are locking of openness, lack of knowledge and skills, lack of post technology infrastructure, low self-regulatory skills and instructor support work. Correcting these factors is very important for the implementation of the Malaysian higher education system.

Ashhari and Islamia[3] (2023) studied the impact of MOOCs on whether learning MOOCs and face to face affects motivation and self-regulated learning of high school students in a small town in Indonesia. For this the quasi-experimental method was adopted. and observed this effect on 144 high school students and concluded that face-to-face learning affects students' motivation while MOOCs and face-to-face learning do not affect students' motivation.

Pahn[7] (2023) administered an 11-point Likert scale to investigate the level of self-efficacy and factors predicting their self-efficacy on engineering students of Taiwan and Vietnam. And focus group discussion was done with 30 students and study MOOCs self-efficacy levels of the student. Lower ratings were scored for the English Self-Proficiency and highest ratings for the Independence Learning subscale. Findings found that both Taiwan and Vietnam are moderately self-confident and efficient.

Factors that affect self-efficacy i.e., English proficiency levels, no prior MOOCs, forward and self-regulation. In order that English proficiency is not affected, for this provision of transcript should be given in video lectures and those who find difficulty in technology, they should be given online orientation of MOOCs platform in the beginning. Apart from this, an introductory session should be held at the very beginning before the MOOCs starts, which will help the learners to achieve their learning goals.

Participants' perceptions and attitudes of older age negatively affect the MOOCs self-efficacy of Taiwanese students.

There is no similarity between the engineering students of both the countries for the level of self-efficacy. In this study, Bandura's scale has been discussed. And discussion and compare have been done in the focused group.

Watted and Baeak[8] (2018) conducted a study on university students and general participants to find out what factors motivate them to complete the MOOCs, in which 114 university students and 194 general participants completed the MOOCs on the topic of nanotechnology and nano sensors. Data was collected through forum and e-mail posts. The findings found that both groups were motivated by interest, personal growth, and enrichment. University students' complete courses to improve their knowledge and obtain certificates. And general participants complete it for research and professional advancement. Therefore, such MOOCs should be made which increase knowledge and develop new skills.

Mohapatra and Mohanty[5,6] (2017) studied on Devgun (2013) models given to overcome obstacles in adopting technology with higher education and found that by giving these models in the form of MOOCs one can easily remove the barriers and adopt the ICT. For this, the skill, utility, availability and ability of the learner, affect the intention of the learner. The prestige of the learner has an effect on MOOCs.

Chatterjee and Nath[4] (2014) researched the possibilities of MOOCs in higher education in India and found that people in rural areas in India could not afford quality education. In this case, MOOCs can act as a game-changer. In which business opportunities will also increase. With this thinking India is being considered as a potential leader in the field of education in Asia.

Objectives

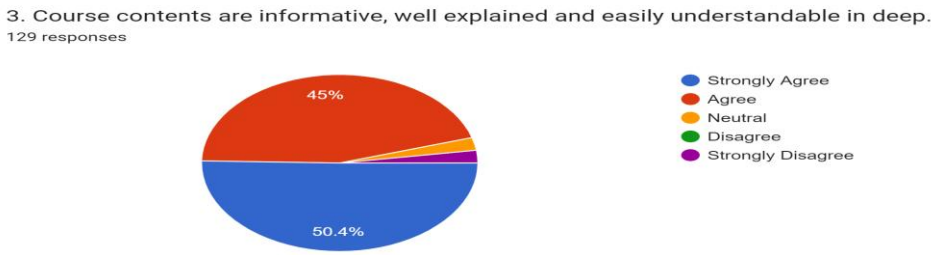
1. To motivate the learners for developing new insights, skills in research, data and ICT etc.
2. To highlight the learner's behaviour towards online learning and MOOCs completion.
3. To promote quality in Education, research and learning.
4. To help in becoming lifelong learners.
5. To Highlight the problems faced by learners during the course.

Methodology

To study the effect of MOOCs and its content, Learners were given access to a MOOCs course "DATA ANALYSIS THROUGH EXCEL IN RESEARCH (DATER)" through the e-learning platform, and two forms were created using Google Forms. which has two Google Forms: one for the pre-test and one for the post-test. 150 participants registered for this MOOCs course, and 129 of them successfully completed it. A pre-test survey was done by each registered student prior to the five-week online course, and a post-test survey was completed by them after it was completed. They also shared their experiences, challenges, and other information. The MOOCs can therefore be improved in the future. It uses MS Excel to teach statistical analysis and provides learning materials in the form of videos, PDFs, texts, and other formats with eLearning platform. The course's intended audience was Students, faculty, academics and decision-makers. Everyone was given access to the MOOCs link via Facebook, WhatsApp, and Telegram groups. so that a maximum number of learners can be benefitted from this MOOCs. **Figures are taken from GOOGLE FORM directly.**

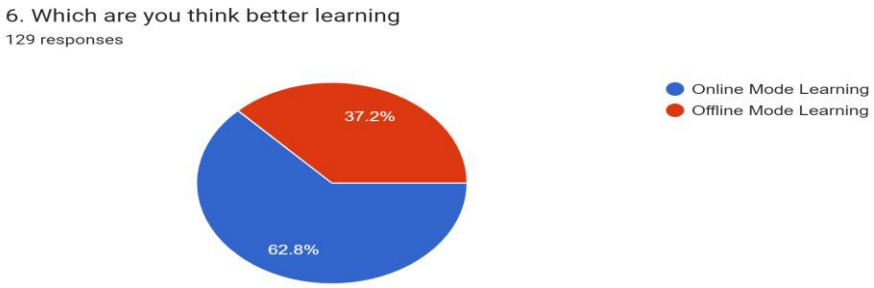
Result Of The Study

Figure 1



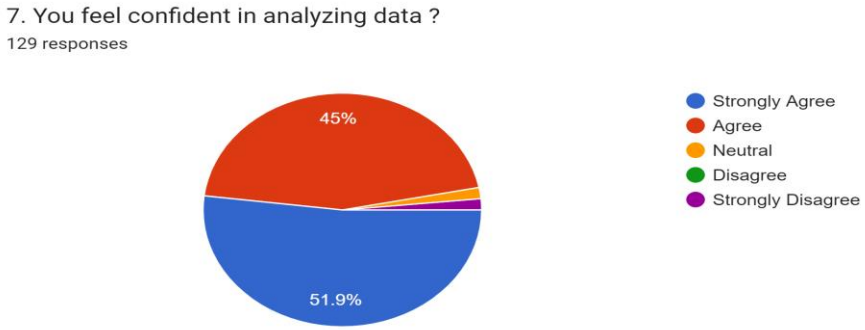
95% of learners felt that the content of MOOCs was informative, well described and easy to understand. As a result, their interest grows, they learn more, and they finish the course.

Figure: 2



Online learning is preferred over traditional classroom instructions, according to 62.8 percent of learners. Because it saves time and money, content is easily accessible. This is new dimension of information. along with experience and competence. In which learning is possible anywhere, at any time.

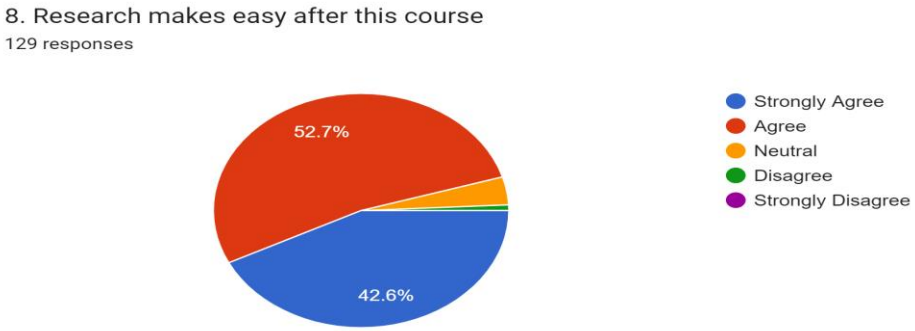
Figure: 3



96.9% of the learners think that they can now confidently analyse data after taking this course. I might add that this has made research easier as well.

This course inspires to conduct new research. Additionally, it aids in raising the quality of both research and education. This course develops data skills in the learners.

Figure: 4



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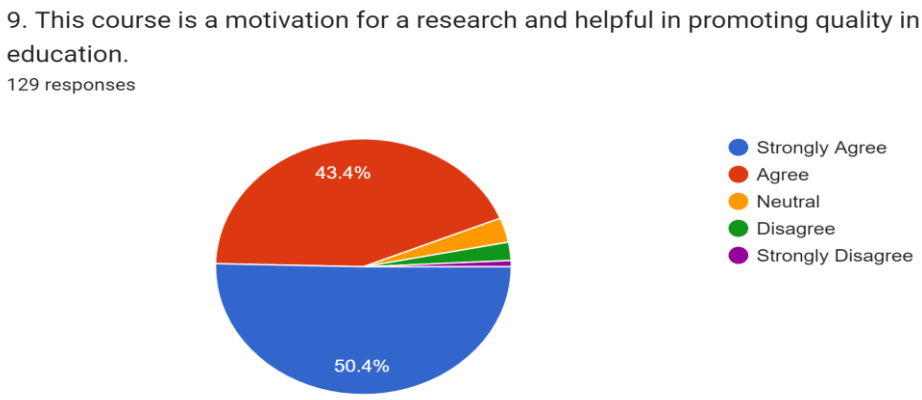

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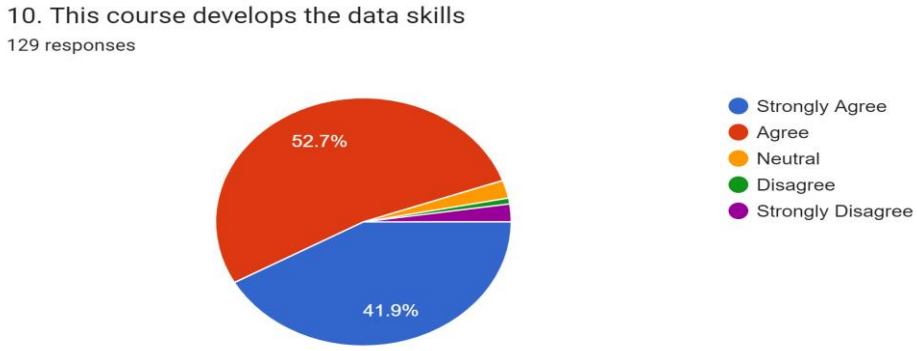

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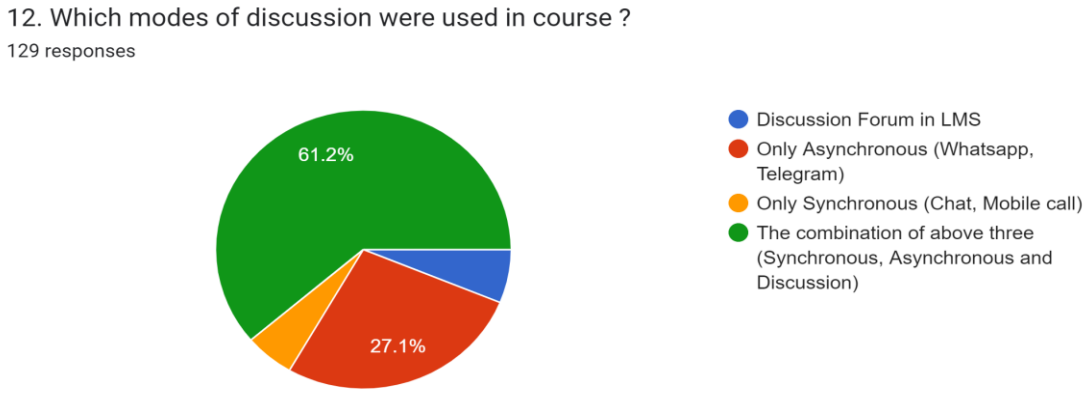
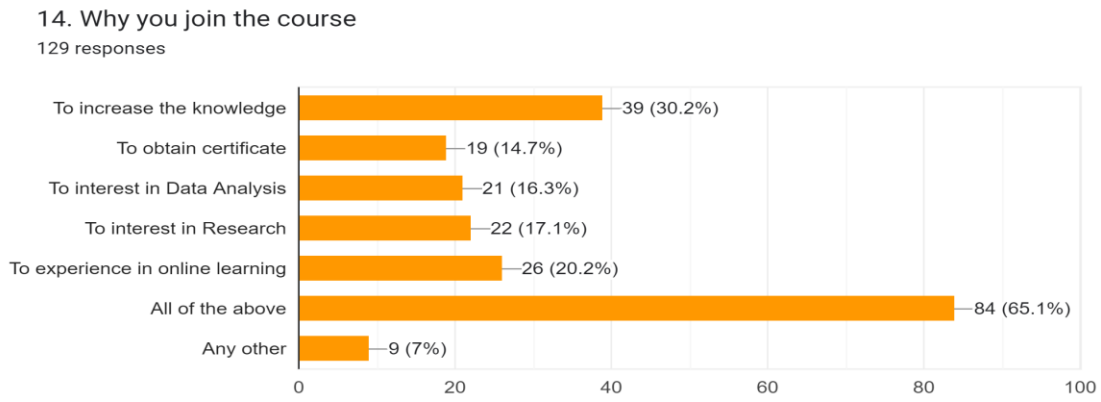


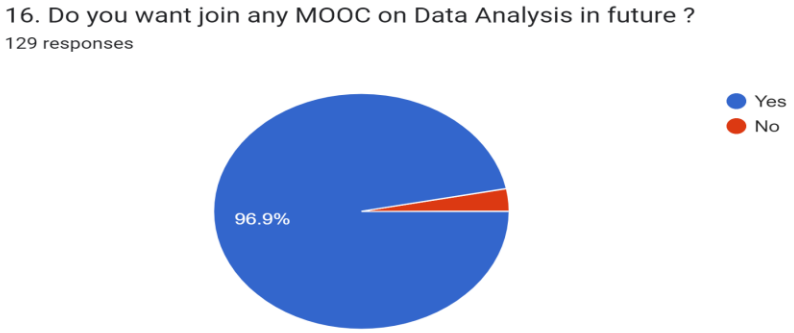
According to 61.2 percent of students, this course was conducted using synchronous, asynchronous, and discussion forums. Discussion forums of LMS, WhatsApp, Telegram, and Mobile Phones were used for discussing, reporting problems and communication between instructors and learners. So that it can be helped in the course's completion. About 28 percent of learners considered only Asynchronous (Whatsapp and Telegram) were used for discussion any problem during the completion of this course.

Figure: 8



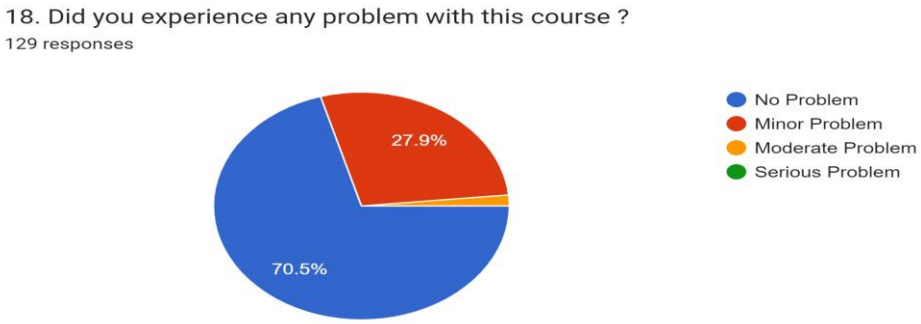
65.1% of learners said that they enrolled in the course to advance their knowledge, gain experience with online learning, develop their interest in data analysis, and receive a certificate. While 7 percent of the learners enrolled in the course for another reason.

Figure: 9



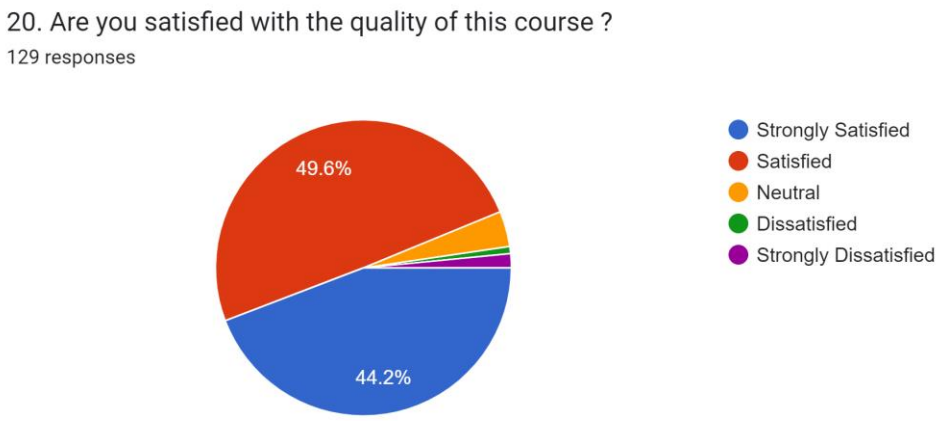
96. 9 percent of the learners say that if they get such a course in future also, they would like to do such a course.

Figure: 10



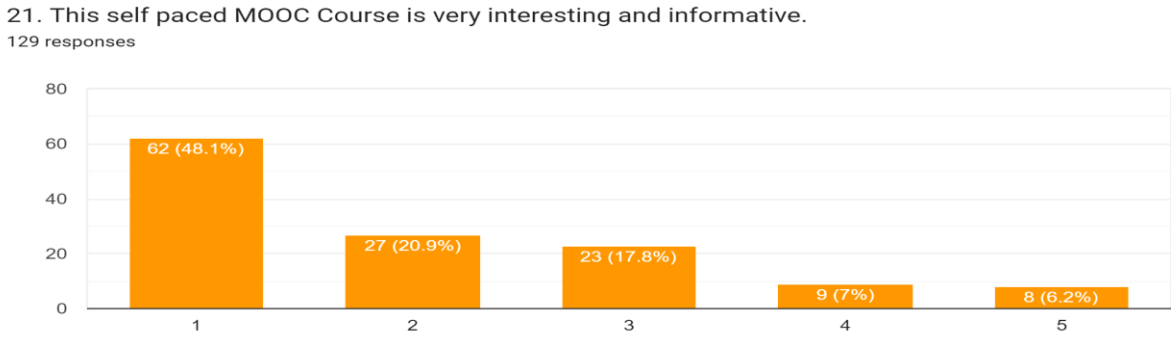
while doing this course, 27.9% students report that they faced some problem like network issues, less knowledge of online platform. whereas 2% students reported more problems.

Figure: 11



44.2 per cent learners are strongly satisfied with the course contents, presentation and objectives, while 49.6 per cent learners are just somewhat less satisfied.

Figure: 12



48.1% of learners find this MOOCs course interesting, informative, and easy. While 13.2 do not agree with it at all and 17.8 percent cannot be decided for agree and disagree.

Interpretation And Discussion

DATER is beneficial for the personal growth, and development of MOOCs learners, and develops interest in learning. It's informative and simple. MOOCs inspire learners to complete such course that fuel interest, personal growth, and advancement. which is consistent with the previous research (Watted and Baeak, 2018).

On the basis of results 86% of DATER participants believed MOOCs satisfied the requirements for being interesting, encouraging lifelong learning, accessible, interactive, and flexible. And these 86% of the students succeeded in finishing it. Albelbisi, Al-Adwan and Habibie (2023) supported this study and found seven factors positively influence the completion of MOOCs in higher education.

It also includes video transcripts and an introductory session, and the faculty and students have been in constant contact during the MOOCs via WhatsApp, Telegram, and mobile phones.

As a result, MOOCs completion rates have increased. which supports the past discoveries. (Pahn, 2023) found through his research that transcripts of the videos are necessary to overcome the learner's English language barrier. As long as communication between the instructor and the learner is maintained via WhatsApp,

Telegram, discussion forums, mobile phones, and other media, the instructor should be able resolve the learner's difficulties.

95% of learners stated the MOOC's content was informative, clear, concise and easy to understand. They get more interested as a result, learn more, and finish the course. After completing this course, 96.9% of learners believe they can now confidently analyse data. This has made research easier as well. The course inspires to conduct new research. Additionally, it helps in increasing the quality of education and research.

According to 65.1% of learners, they registered in the course in order to increase their knowledge, become more accustomed to online learning, grow their interest in data analysis, and obtain a credential. While 7% of learners were there in the course for another reason.

While completing this course, 27.9% of learners report that they faced across some difficulties, such as network problems, a lack of familiarity with online platforms etc, while 2% faced more difficulties.

Online learning is preferred over traditional classroom instruction, according to 62.8 percent of learners. Learning is feasible anywhere, at any time since it saves time and money, content is easily accessible, along with experience and competence, and there is a new dimension of information. Swayam is a major platform of MOOCs in India. Whose linking is 198. The more linking a website has, the more popular it is. That content would have been that much clearer and explained (Aggarwal and Chimni, 2021)[1]

Conclusion

A MOOC is more likely to be completed if it is engaging, encourages lifelong learning, is accessible, interactive, and flexible. The completion rate of the MOOCs improves if the transcripts begin with the videos, an introductory session is initiated, and the conversation between the instructor and the learner continues throughout the MOOCs (Albelbisi, Al-Adwan and Habibie (2023).

MOOCs should be accessible to students in higher education. Anyone can do it effortlessly, even those who want to stay at home or reside in rural places. MOOCs ought to be available in higher education. (Chatterjee and Nath, 2014).

To develop any kind of skill, we must keep MOOCs of different skills ready. This makes it easy to develop skills. Additionally, the instructor also needs to have a good reputation. Until then, the students won't be inspired to finish it (Mohapatra and Mohanty, 2016).

References:

[1] Aggarwal, Sandhya and Chimni, Narender. (2021). Use and Status of Higher Educational Digital Initiatives in Universities of Haryana: A Webometric Analysis. *International Journal of Information Dissemination & Technology.* 3(11), 143-148p. Retrieved on: https://web.s.ebscohost.com/abstract?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=22295984&AN=157369658&h=g69GArDDebAZYFUBPTXVZFP0nv2MnyaCKVlYD6XeXSGEUq4Avqz9vaaI7Jt0FFh4i0UOd6JnuwCz9jSdcHqNGw%3d%3d&crl=c&resultNs=AdminWebAuth&resultLocal=ErrCrlNotAuth&crlhashurl=login.aspx%3fdirect%3dtrue%26profile%3dehost%26scope%3dsite%26authtype%3dcrawler%26jrnl%3d22295984%26AN%3d157369658

[2] Albelbisi, Nour Awni, Al-Adwan, Ahmad Samed and Habibie, Akhmad. (2023). A Qualitative Analysis of the Factors Influencing the Adoption of MOOCs in Higher Education. *Turkish Online Journal of Distance Education-TOJDE*,24(2),217-231.DOI:10.17718/tojde.973956.Retrieved on: https://dergipark.org.tr/en/download/article-file/1890003

[3] Ashhari, Ardian and Islamia, Intan. (2023). The Influence Of Massive Open Online Courses (Moocs) And Face-To-Face Learning On Motivation And Self-Regulated Learning (SRL). *Journal of Educators Online*. Also Retrieved on: https://www.researchgate.net/profile/Ardian-Asyhari/publication/367653128_The_Influence_of_Massive_Open_Online_Courses_MOOCs_and_Face-to-Face_Learning_on_Motivation_and_Self-

Regulated_Learning_SRL/links/63d9e35862d2a24f92e2bd90/The-Influence-of-Massive-Open-Online-Courses-MOOCs-and-Face-to-Face-Learning-on-Motivation-and-Self-Regulated-Learning-SRL.pdf

[4] A. Chatterjee, P. and Nath. A. (2014). Massive open online courses (MOOCs) in higher education — Unleashing the potential in India. *IEEE International Conference on MOOC, Innovation and Technology in Education (MITE)*, *Patiala, India*, pp. 256-260, doi: 10.1109/MITE.2014.7020283. Retrieved on: https://ieeexplore.ieee.org/abstract/document/7020283

[5] Devgun, P. (2013). Prospects for success of MOOC in higher education in India. *International Journal of Information and Computation Technology*, *3*(7), 641–646. retrieved from http://www.irphouse.com/ijict.htm.

[6] Mohapatra, S., Mohanty, R. (2017). Adopting MOOCs for affordable quality education. *Educational Information Technology*, **22**, 2027–2053. https://doi.org/10.1007/s10639-016-9526-5

[7] Phan, N. T. T. (2023). Self-efficacy in a MOOC environment: A comparative study of engineering students in Taiwan and Vietnam. *Knowledge Management & E-Learning*, 15(1), 64–84. https://doi.org/10.34105/j.kmel.2023.15.004 , Also Retrieved on: https://www.proquest.com/openview/4626e8631b415a9c5f35c77d95a268b3/1?pq-origsite=gscholar&cbl=2046212

[8] Watted, A., & Barak, M. (2018). Motivating factors of MOOC completers: Comparing between university-affiliated students and general participants. The Internet and Higher Education, 37, 11-20. http://doi.org/10.1016/j.iheduc.2017.12.001