

## ABSTRACT

- *The aim of the study is to identify the factors affecting students' satisfaction and performance regarding online classes during the pandemic period of COVID-19 and before that to establish the relationship between these variables. The study indicates that online learning affects both negatively and positively on the academic level of individual students.*

## KEYWORDS

- *Perceptions of online learning, online learning, education during COVID-19, online learning in India, benefits and challenges of online learning on academic performance of students.*

## INTRODUCTION

### About the topic:

- *In 2020, the pandemic pushed millions of college students around the world into virtual learning.*
- *Online learning is used rabidly without any check. This reflects negatively on the students' academic performance, in addition to the weak infrastructure of some students (such as electronic devices and the Internet), which makes these students not regularly attending lectures.*
- *As a versatile platform for learning and teaching processes, the online learning framework has been increasingly used. E-learning is defined as a new paradigm of online learning based on information technology. In contrast to traditional learning academics, educators, and other practitioners are eager to know how online learning can produce better outcomes and academic achievements. Only by analyzing student satisfaction and their performance can the answer be sought.*

- *Several new papers shed light on these issues, building on previous work in higher education and assessing the efficacy of online education in new contexts. The results are generally consistent with past research: Online coursework generally yields worse student performance than in-person coursework. The negative effects of online course-taking are particularly pronounced for less-academically prepared students and for students pursuing bachelor's degrees. New evidence from 2020 also suggests that the switch to online course-taking in the pandemic led to declines in course completion. However, a few new studies point to some positive effects of online learning, too. This paper discusses this new evidence and its implications.*

### **Current global scenario :**

- *The global scenario of online courses has grown significantly in recent years, with more and more people turning to online platforms to pursue education and training. This trend has been accelerated by the COVID-19 pandemic, which has resulted in the closure of many schools and universities and the shift to remote learning.*
- *According to a report by the United Nations Educational, Scientific and Cultural Organization (UNESCO), the number of students enrolled in online courses worldwide increased from 6.7 million in 2000 to 35 million in 2011, and it is expected to continue growing in the coming years. In the United States, for example, the number of students taking at least one online course increased from 5.7 million in 2002 to 18.6 million in 2016.*
- *It is difficult to provide a global scenario of the number of online courses that are currently available, as this information is constantly changing and may vary depending on the location and platform. However, online courses have become increasingly popular in recent years, with a wide range of options available for learners around the world. There are many websites and learning management systems that offer online courses on a variety of subjects, including business,*

*computer science, arts, and more. Some popular platforms for online courses include Coursera, edX, and Udemy.*

- *According to a report by the Babson Survey Group, the number of students taking at least one online course increased from 6.7 million in 2002 to 31 million in 2018. This represents a more than fourfold increase in the number of online students over a 16-year period.*
- *Additionally, the global market for online education is expected to reach \$350 billion by 2025, according to a report by MarketandMarkets. This represents a significant increase from the \$187 billion in market size that was estimated for 2020.*

### **Current scenario in India :**

- *The unprecedented situation of uncertainty caused by the COVID-19 pandemic in 2020 forced the Indian education system to move to digital learning and teaching to fill the gap created by suspending classroom teaching across the country. Technological development and the Internet have changed the lives of people immensely and have also brought a huge change in various fields (Nadikattu, 2020).*
- *The majority of countries worldwide temporarily closed educational institutions to contain the spread of the COVID-19. According to UNESCO (2020), 191 countries have implemented nationwide or localized school closures, resulting in over 91% of enrolled students, or 1.5 billion people, not being able to go to school as of April 20, 2020 (Lamrabat, 2020). UNESCO has supported countries in their efforts to mitigate the immediate impact of school closures, particularly for more vulnerable and disadvantaged communities, and to facilitate the continuity of education for all through remote learning (UNESCO, 2020).*

- *The decision of the countries to switch to an online mode of education in light of the outbreak of COVID-19 was needed to contain the spread of the pandemic. Although the Indian government has attempted to control the damage by introducing online teaching through the virtual classroom, uploading and sharing e-study materials, and through virtual interaction, all such tools and techniques have limitations. This damage control mechanism will certainly have long-term consequences on the quality, accessibility, and deliverability of educational content. The effects of the global pandemic on the education system may vary from country to country, depending mainly on infrastructure and quality of content. The outbreak of COVID-19 has affected all segments of students, but it is particularly damaging to students of the vulnerable groups of the society.*
- *The people of the vulnerable groups in India are disadvantaged in comparison to others mainly on account of limited access to basic needs or services. As per census of India 2011, the Scheduled Tribes (ST) and Scheduled Caste (SC) account for 8.2% and 16.2% of the total population of the country respectively (Census India, n.d.). The term OBC, which stands for Other Backward Class, is collectively used by the Government of India to categorize the educationally or socially underprivileged castes living across the country. It is one of the official classifications of the population alongside General Class, Scheduled Castes, and Scheduled Tribes (SCs and STs).*
- *There are reports of students of a large section of the country facing difficulties coping with the present online system of delivery of education based on the digital divide. The closure of 1.5 million schools due to the pandemic and lockdowns in 2020 has impacted 247 million children enrolled in elementary and secondary schools in India (UNICEF, 2021). The interruptions in the teaching and learning process have adversely affected mainly the students without smartphones and*

computers, those with poor Internet speed or lack of stable Internet connection, electricity failures, etc. The early evidence and news reports also indicate that the impact of COVID-19 is most severe among the students from vulnerable groups due to their inability to continue with studies due to meager economic conditions.

Moreover, re-contextualizing the teaching and learning process to an e-learning mode has several limitations for students with less access to technology.

- The problem for the students with meager sources of family income is more severe and such students require additional attention and support. The online method of delivering content is a big barrier for such students and their families. It has restricted both the cognitive as well as non-cognitive development of these students. The online delivery of education may turn out to be harmful if the pandemic situation continues for a long time for the students living in poverty. The situation will adversely affect students from indigent and other marginalized groups in particular. Moreover, health and psychological issues such as mental stress, eye strain, headache, backache, neck ache, spondylitis, sleeplessness, irritation, aloofness, lack of physical peer interaction, etc. emerging from the sudden introduction of online education can cause the students to experience many difficulties over their academic performance. Any stress and inadequate resources to alleviate these potential harms may lead the individual to experience psychological distress (Lazarus & Folkman, 1984).
- In a country as diverse as India, along with overcoming the infrastructure barrier, there needs to be a focus on overcoming the barriers of language and content (Saini, 2018). The migration to online learning has been looked at as a good solution for the future by experts while overcoming the infrastructural barriers in gradual progression to maintain quality and accessibility to meet the learning needs of the growing population of the country.

- *There may be numerous pros and cons of online education with respect to the students of different classes, castes, genders, and economic conditions. Despite all odds, the government and stakeholders of educational institutions have been working hard to strengthen the knowledge of the individual, larger community, and society for any normal and future crisis situations.*
- *This paper concentrates on the impact of the introduction of online learning process on students' academic performance*

## **REVIEW OF LITERATURE**

- *Technology has a firm-established role in education experience in the last decade. Methods, techniques, and strategies of education have been revised to deal with dramatic changes in technology. The technological enterprises have designed several online platforms, which are driven by the integration of technology in all walks of life. Technology has become part of our social, business, and educational life'. The use of the Internet has a vital role in disseminating knowledge via online classes.*
- *During COVID-19, education has been shifted into the techno-economic culture. The shift should associate with plans to reduce this shift's impact on the normal learning process. The change to online in higher education entails reshaping our view regarding higher education, including institutions and students' needs. For instance, theoretical courses can be taught online. In contrast, the practical courses should be conducted face to face to ensure best teaching practices in monitoring and guiding students. Therefore, technology can make larger classes flexible and suiting students' needs.*
- *Research on faculty members' perceptions and attitudes toward online learning emphasized the role of instructors in facilitating communication and earning with students. Instructors acknowledged the content expertise and instructional design*

*as the factors in the success of online learning. Similarly, the call for staff and student training is mandatory for online learning success.*

- *The mode of education has turned into student-centered education, where students became independent learners. This is considered as an advantage as face-to-face instruction was teacher-centered education, where students receive their education from their instructors. Online learning initiated students' role in using additional resources to discover their abilities as independent learners. The comparison between students' attitudes toward teaching the same interactive courses in online and face to face is similar. It is found that students performed equally at the same interactive courses in online and face-to-face instruction. Face-to-face instruction's success depends on regular class attendance, while the interactive classes relied on completing interactive worksheets. Therefore, online and face-to-face success is based on curriculum structure, mode of delivery, and completion rate. The COVID-19 outbreak shifts face-to-face education to online during the lockdown. This shift helps faculty integrate advanced technological skills in their teaching, which benefit students.*
- *Online learning has been considered a useful tool for learning, cost-effectiveness, flexibility, and the possibility of providing world-class education. A study by [Li and Lalani \(2020\)](#) indicated that COVID-19 had brought change to the status of learning in the 21st century. The instruction mode has been changed at both schools and higher academic from face-to-face instruction to online instruction. However, this rapid change tests the capacity of institutions to cope with such crises. Many countries did not expect such a complete shift to be online, and therefore their working staff and students are not trained enough for this dramatic change.*
- *Online learning works as a tool to overcome abrupt crises. Online learning is considered as an entertaining way to learn. It has a positive impact on both students and teachers alike. Both faculty and students have optimistic opinions*

*about online classes. Moreover, there is a positive correlation between students and faculty in their perception of teaching and learning. Faculty and students of engineering specialties incurred that theoretical engineering subjects can be taught online, while teaching practical courses online are less effective and should be conducted at engineering labs. Similarly, students' and faculty perceptions were marginalized differently in teaching laboratory courses online.*

- *Faculty and students encountered challenges such as technology, workload, digital competence, and compatibility. They concluded that education would become hybrid, face-to-face, and online instructions. A study to verify the usage of online learning platforms in teaching clinical medical courses was conducted. They found that the rate of student satisfaction is 26%. There is a slew of advantages and disadvantages of online learning. The benefits include efficiency, cost-effectiveness, and 24 h access, while the disadvantages are technical issues, lack of interaction, and training. [Rayan, 2020](#) proposed ways to overcome the disadvantages of online learning by encouraging shy students to participate and provoke students' online class attendance. Understanding such issues will help to deliver adequate online education. Online encourages shy students to participate and improve students' attendance, while it also triggers a lack of social interaction that affects students.*
- *Online learning has a vital role in learning during the crisis. Moreover, having properly maintained the technical infrastructure is required for its success at schools and universities. [Dhawan, 2020](#) scrutinizes online learning's strengths, weaknesses, opportunities, and threats (SWOT). He shows that crisis highlights the role of technology competency in dealing with the global crisis and facilitating learning. Therefore, schools should train students with the necessary IT skills. Another study was conducted on male and female students' satisfaction in using E-learning portals in Malaysia. He found that there is a significant relationship between the user's satisfaction and E-learning. The satisfaction rate by both*



*participants depends on E-service quality and the information provided. The advantages of online learning are as follows: flexibility, easy access, and interaction between learners and their professors. The role and advantages of online learning have accentuated that online learning has challenges as data privacy. Students' private information is at risk since they use their computers and mobile phones to access online portals. Universities should educate their staff and students about cyber security and data privacy.*

## **STATEMENT OF THE PROBLEM**

- *The main intent of this study is to investigate The Impact of Online Learning on the Academic performance of the students.*
- *There could be various impacts of online learning on the academic performance of individual students' both positive and negative.*
- *Some of the positive impacts of online courses would include that it engages students at deeper level, improves their digital literacy, offers flexibility to students, multiple ways to learn (for example: hands on projects) and the negative impacts of online courses would include sense of isolation, relying on self-discipline, more screen time, lack of face to face interaction etc.*

## **OBJECTIVES OF THE STUDY**

- *The following are the objectives of the study:*
  - *1. To investigate the impacts of online learning on academic performance*
  - *2. To identify the positive and negative impacts of online learning on the academic performance of students*
  - *3. Effectiveness of online learning process*
  - *4. Effect of online learning on learners health*
  - *5. Effect of online learning on learners psychological health*

## SCOPE OF THE STUDY

- *There have been a number of studies on the effects of online courses on student academic performance. Some studies have found that students who take online courses perform better than those who take in-person courses, while others have found no significant difference in performance between the two groups.*
- *One study published in the Journal of Computer Assisted Learning found that students who took an online course performed better on average than those who took the same course in person. The study found that the online students had higher grades, spent more time on coursework, and were more likely to complete the course.*
- *However, other studies have found no significant difference in academic performance between online and in-person students. For example, a meta-analysis published in the Journal of Education and Training Studies found that there was no significant difference in the academic performance of online and in-person students when controlling for student characteristics such as prior knowledge and motivation.*
- *Overall, the research suggests that online courses can be effective for some students, but may not be suitable for all students. It is important for students to consider their own learning style and needs when deciding whether to take an online course.*

## HYPOTHESES

- *H1: There is no considerable difference in the academic performance of students between online and in-class students.*
- *H2: There is a considerable difference in the performance of students between online and in-class students.*

## DATA COLLECTION

- *The collection of the data is done using a primary source of data which is the first-hand data that is collected for the purpose of a study. The quantitative approach is adopted for the purpose of data collection and analysis as well.*
- *A questionnaire survey created using google forms is used as the research instrument in this study. The questionnaire consists of close-ended questions which are in the form of multiple-choice questions. The participants must answer the question by selecting only one of the given options from each question.*

***This questionnaire is developed to study the Impact of online learning on students' academic performance. The questionnaire consists of 11 questions that are to be answered by choosing one option from the given options.***

*Have you ever enrolled for online courses?*

*Was the course an interactive or non – interactive course?*

### **IF NON – INTERACTIVE**

*Was the non – interactive online course understandable?*

*Were your doubts or queries getting solved / clarified?*

*Did it have assignments / projects regarding your course?*

*Did you find this type (Non - interactive) of online course helpful for your academics?*

*How many hours are you investing in a whole week for your courses? (in hours)*

### **IF INTERACTIVE**

*Was the interactive online course understandable?*

*Were your doubts or queries getting solved / clarified?*

*Did it have assignments / projects regarding your course?*

*Did you find this type (interactive) of online course helpful for your academics?*

*How many hours are you investing in a whole week for your courses? (in hours)*

### **GENERAL QUESTIONS**

*Online courses develop an interest in me?*

*Online learning distracts me?*

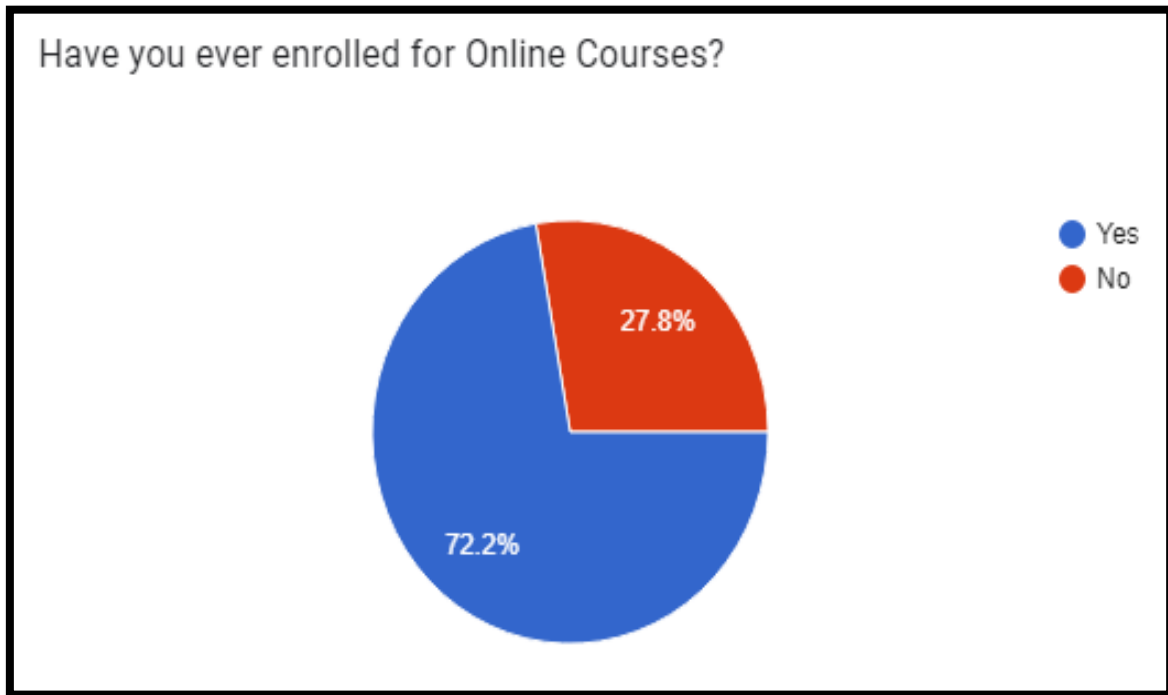
*Do you feel online courses are beneficial for academic performance of students?*

*Do you prefer online courses or physical face to face classes?*

## DATA ANALYSIS

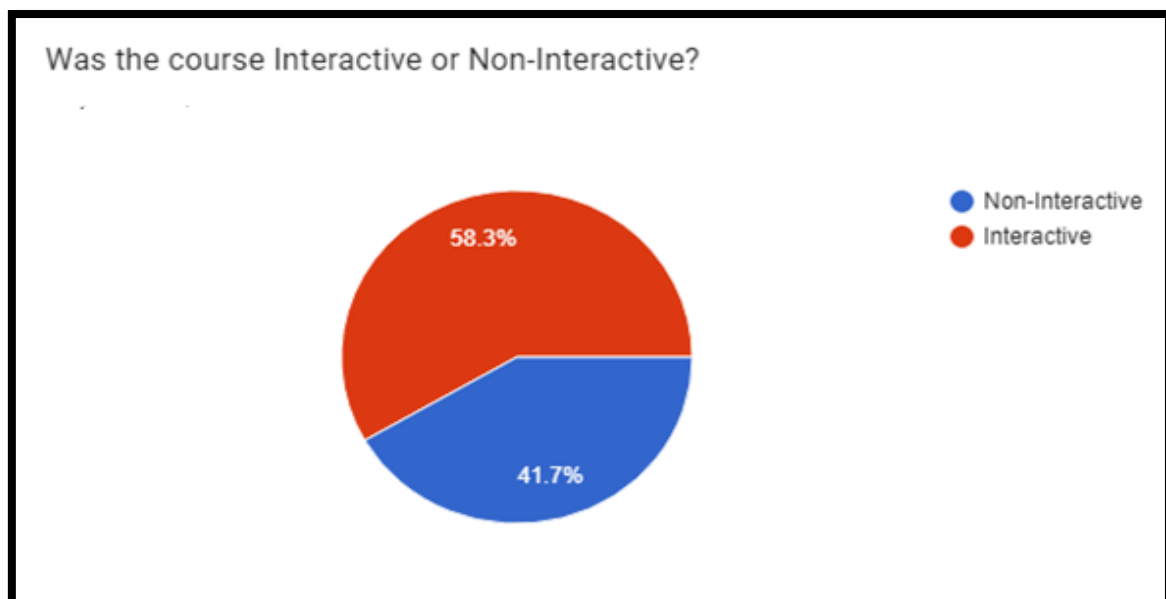
- *The data collected through a questionnaire is analyzed using the quantitative analysis approach. In this approach the statistical methods are applied to identify the frequencies of the results.*
- *Research question 1:*

*Have you ever enrolled for online courses?*



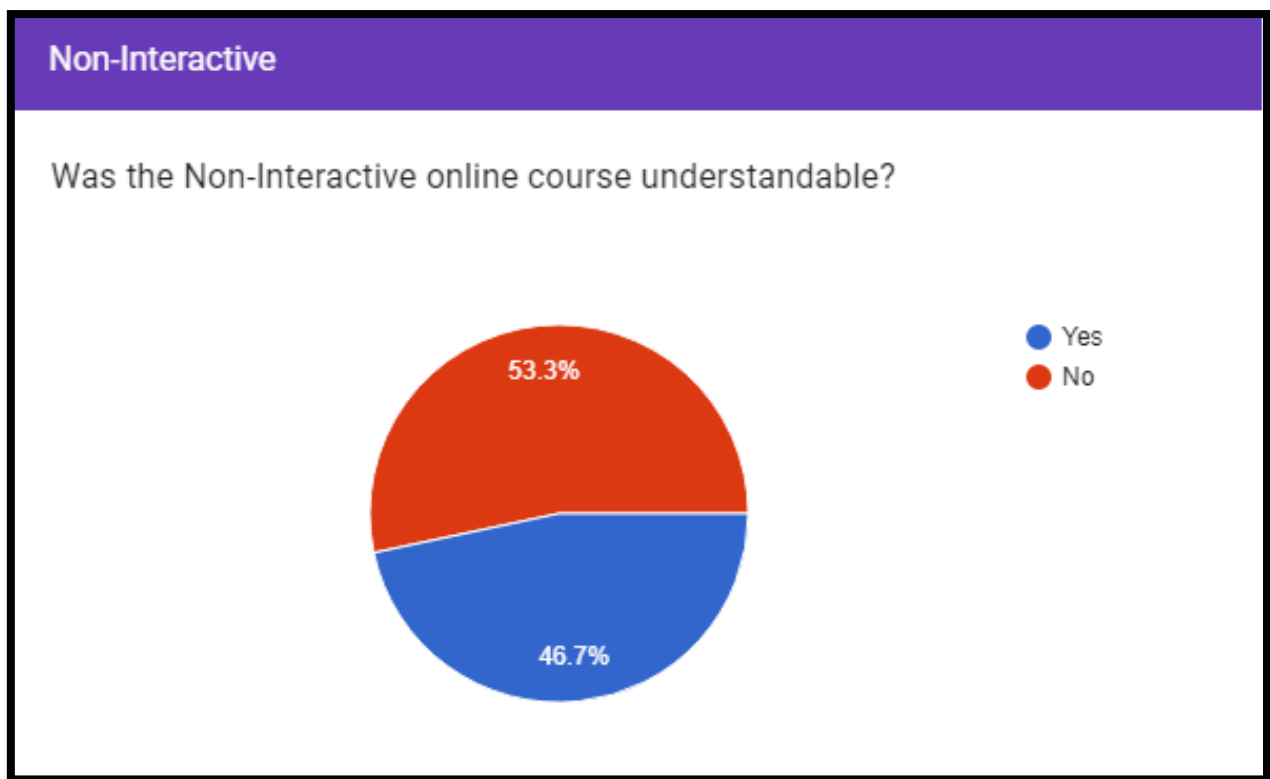
- *Research question 2 :*

*Was the course an Interactive course or Non – interactive course?*



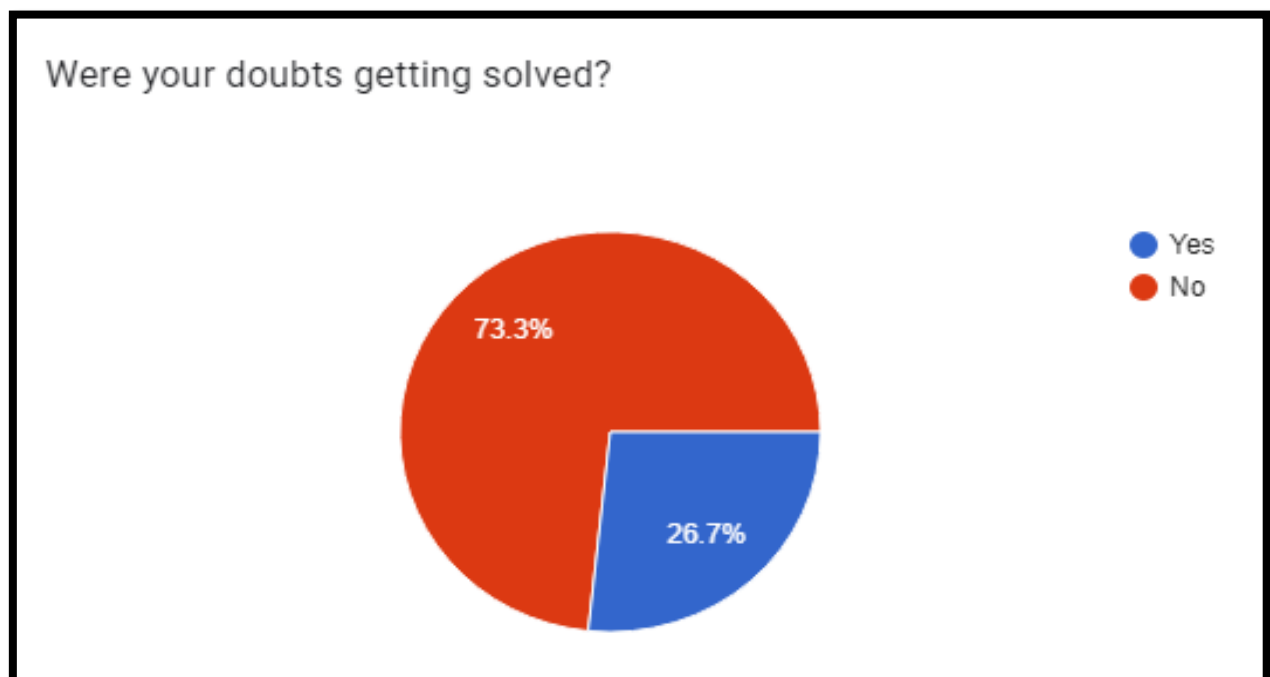
➤ *Research question 3-A [IF NON - INTERACTIVE]:*

Was the Non – interactive online course understandable ?



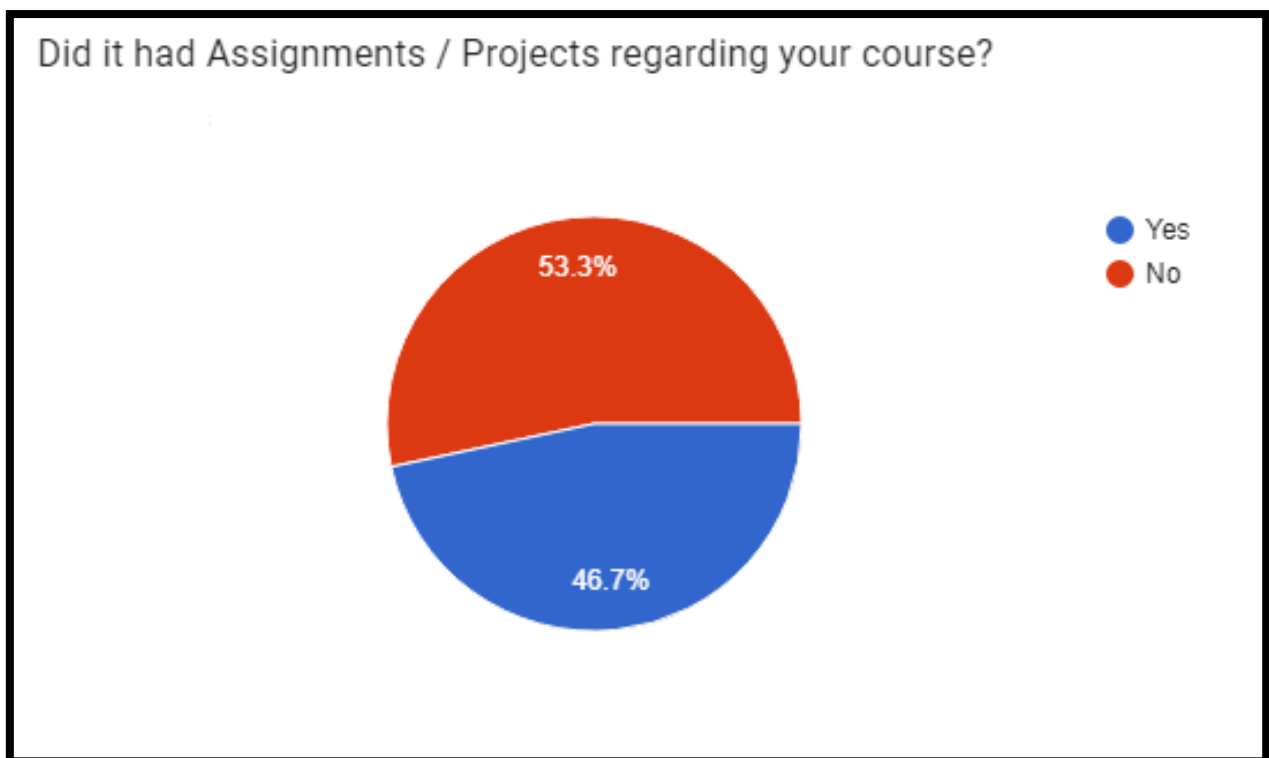
➤ *Research question 3-B :*

Were your doubts or queries getting solved / clarified?



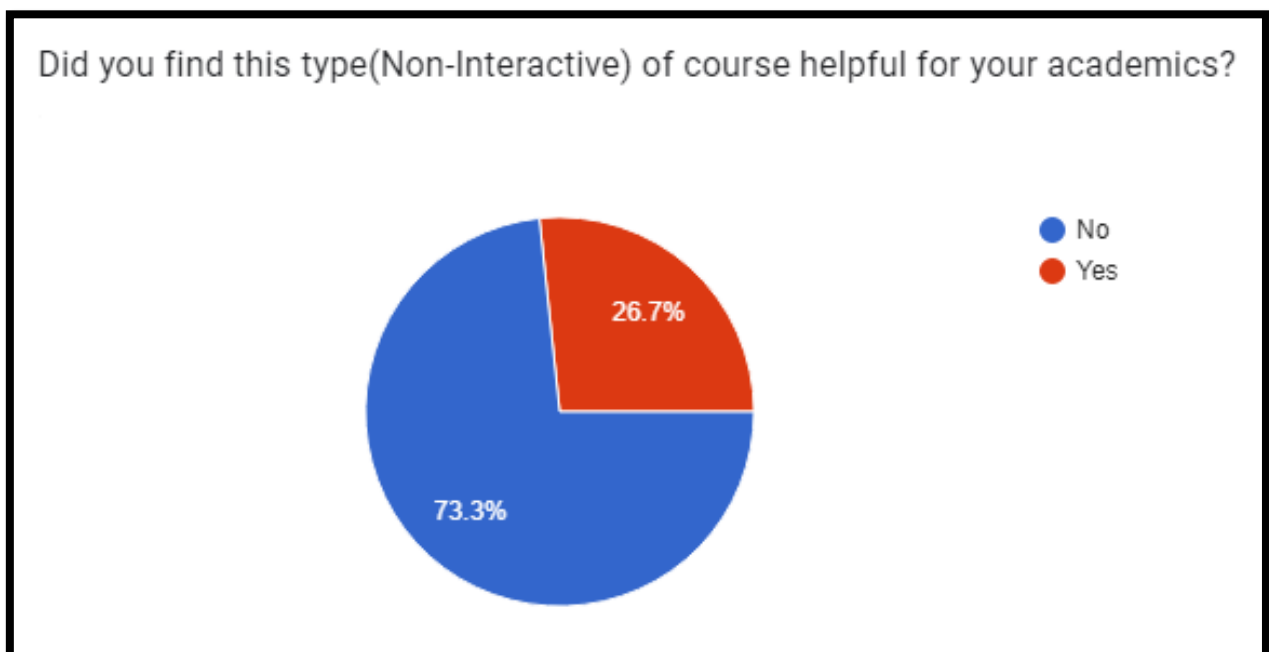
➤ *Research question 3-C:*

Did it have assignments / projects regarding your course?



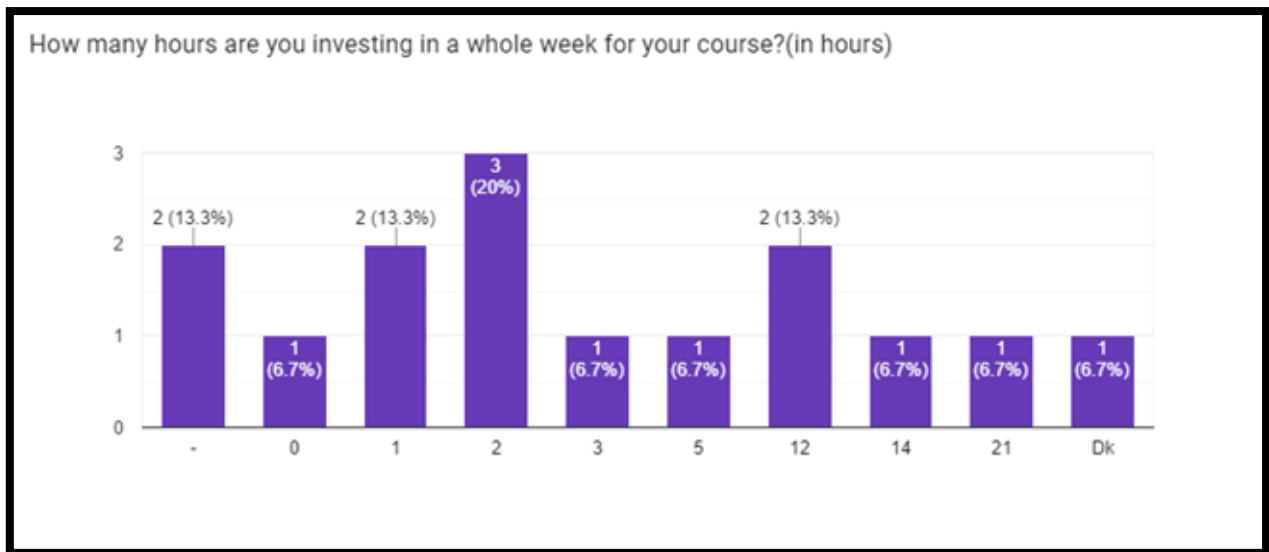
➤ *Research question 3-D:*

Did you find this type (Non - interactive) of online course helpful for your academics?



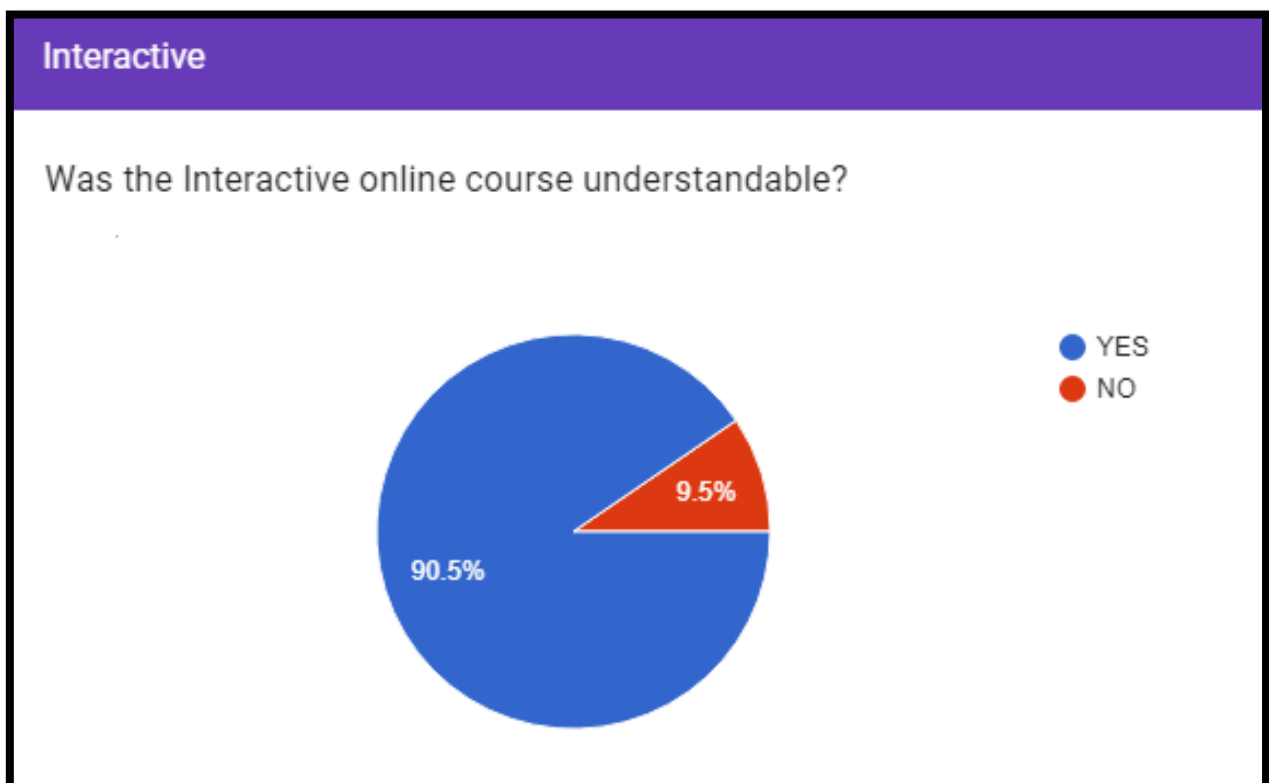
➤ *Research question 3-E :*

How many hours are you investing in a whole week for your courses? (in hours)



➤ *Research question 4 –A [IF INTERACTIVE]:*

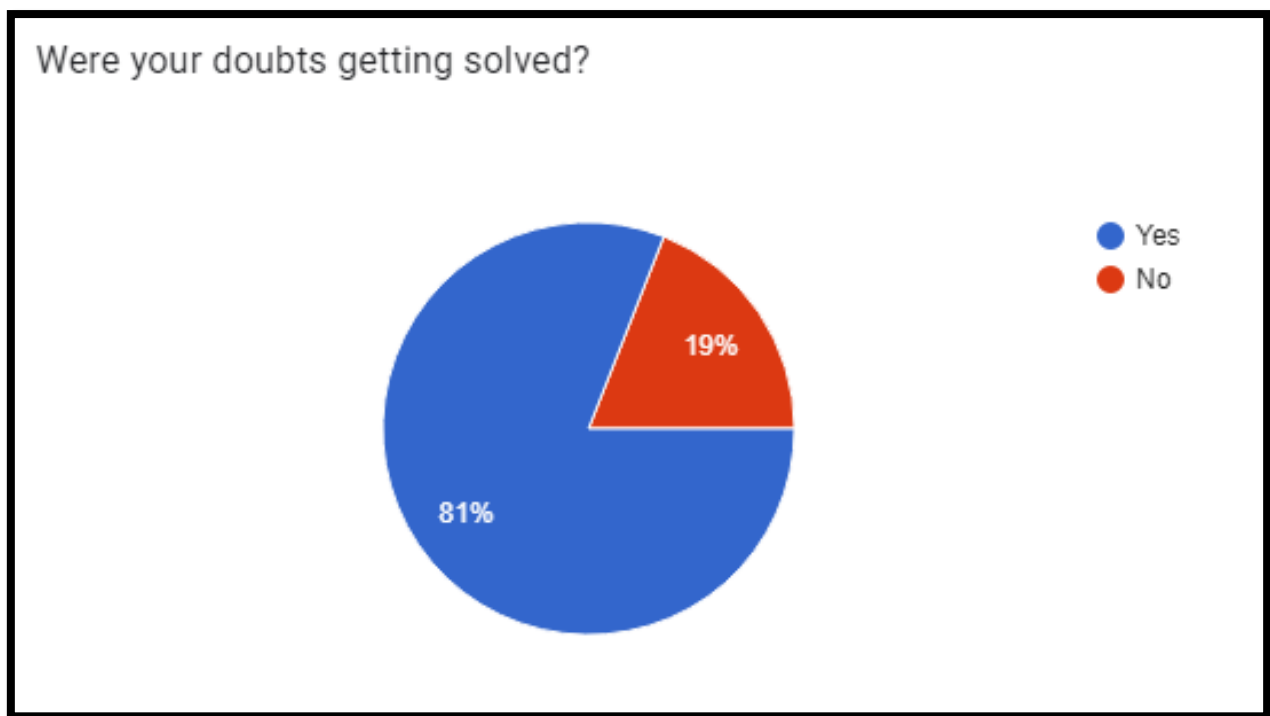
Was the interactive online course understandable?





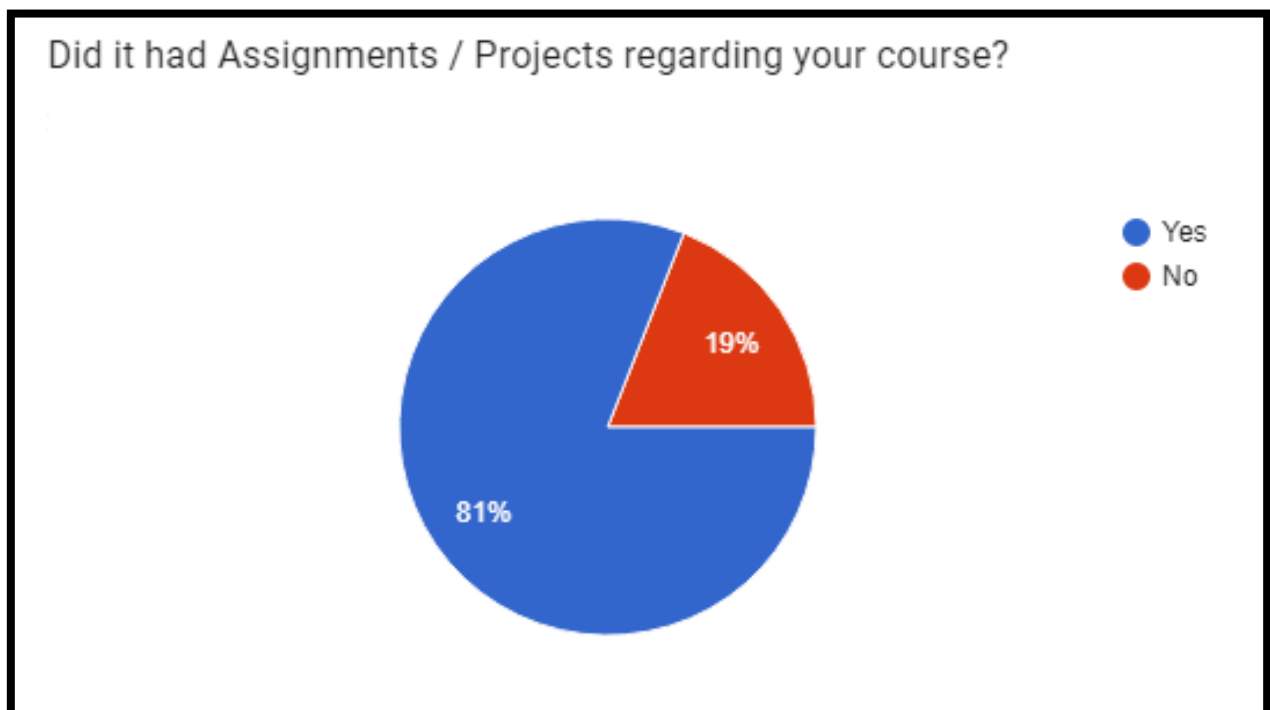
➤ *Research question 4-B:*

Were your doubts or queries getting solved / clarified?



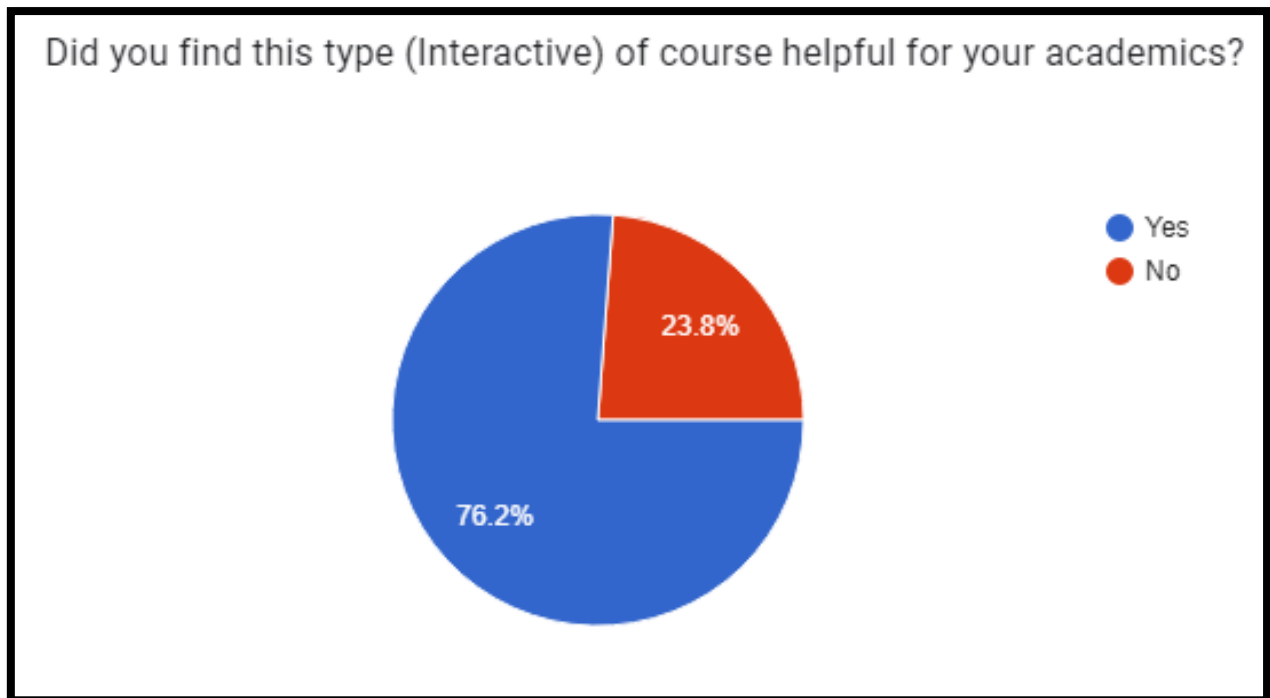
➤ *Research question 4-C:*

Did it have assignments / projects regarding your course?



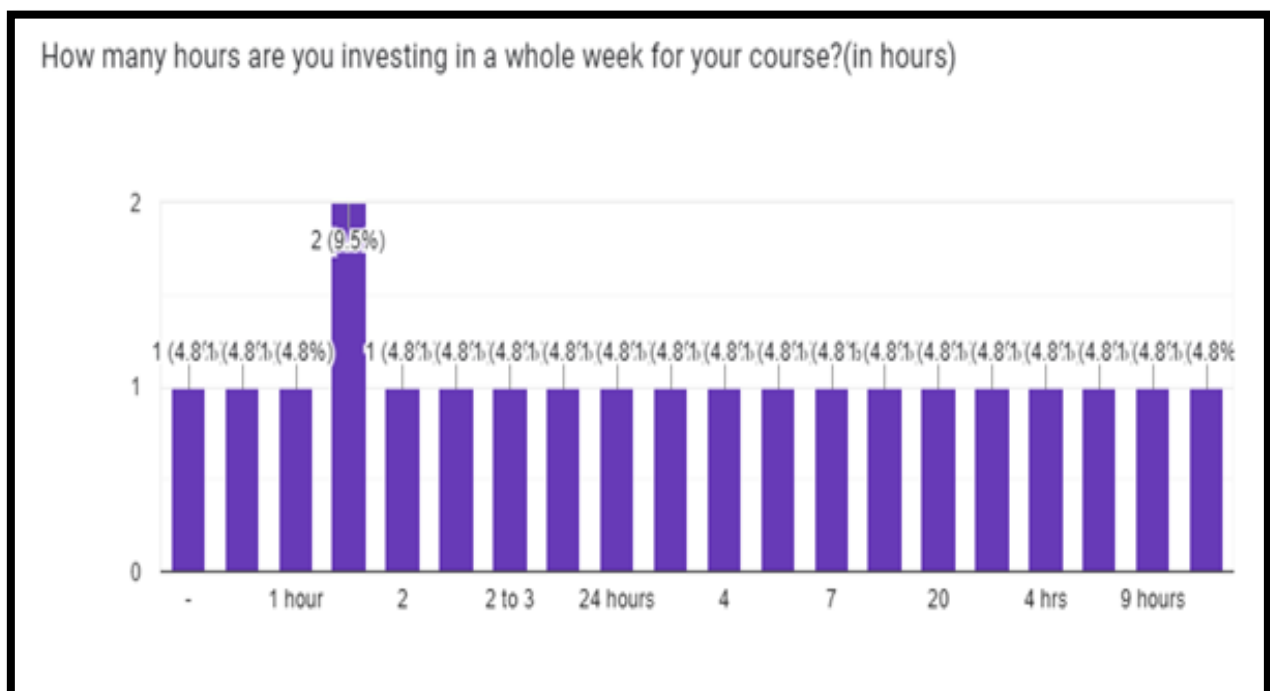
➤ *Research question 4-D:*

Did you find this type (Interactive) of course helpful for your academics?



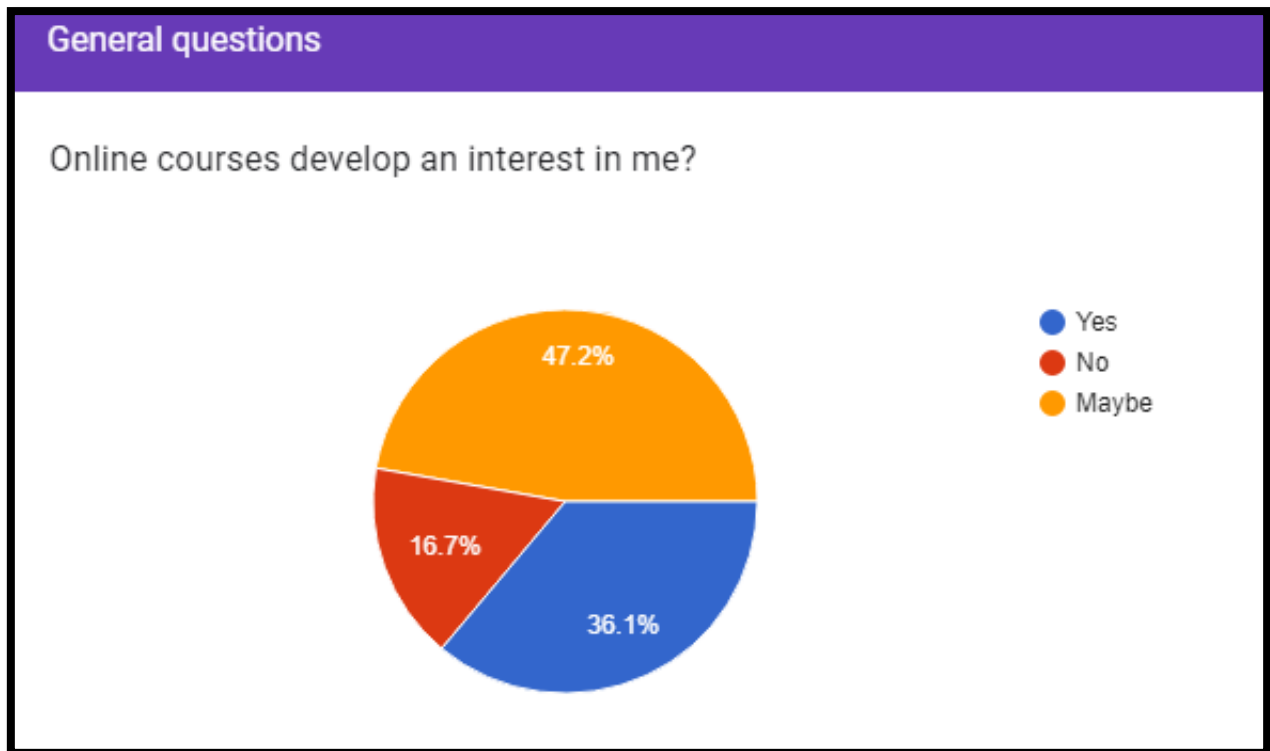
➤ *Research question 4-E:*

How many hours are you investing in a whole week for your course? (in hours)



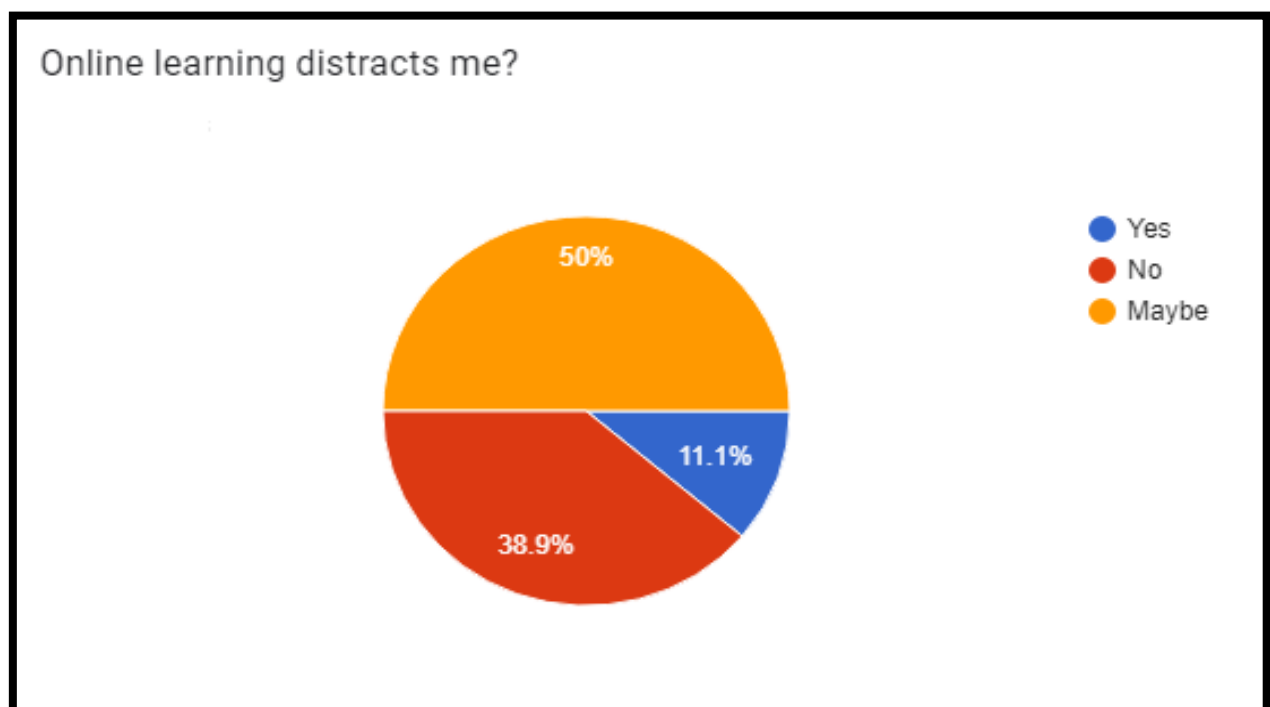
➤ *Research question 5:*

Online courses develop an interest in me?



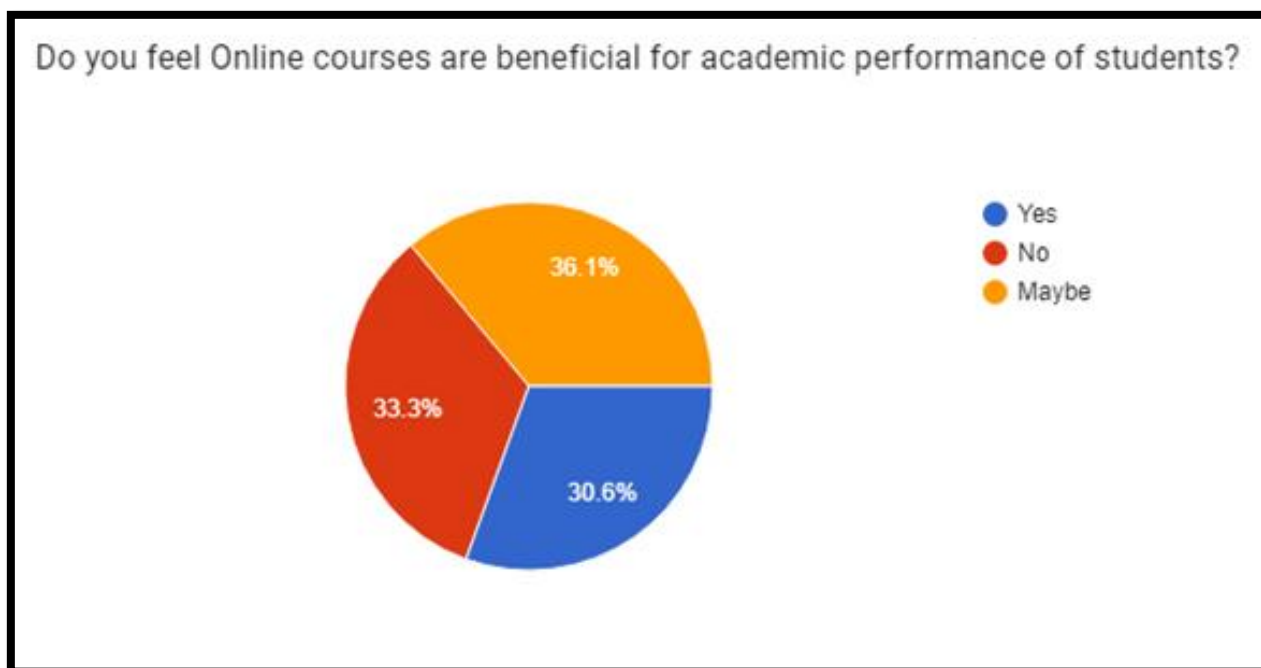
➤ *Research question 6:*

Online learning distracts me?



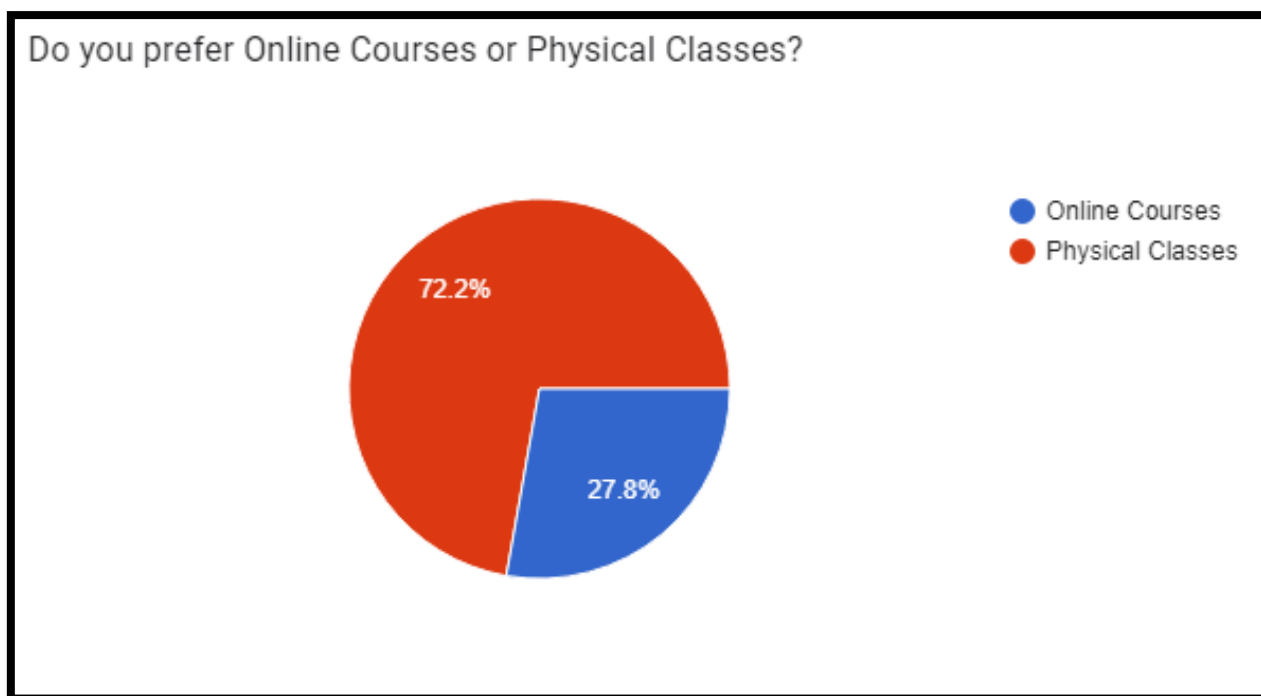
➤ *Research question 7:*

*Do you feel online courses are beneficial for academic performance of students?*



➤ *Research question 8:*

*Do you prefer online courses or physical face to face classes?*



## RECOMMENDATIONS BASED ON STUDY

- *Online learning has been considered vital in 21st century to provide flexible education for students. Understanding the influence of students' satisfaction and motivation is very important to enhance academic performance and retention.*
- *This research suggests that during online classes both teachers and students factor is vital. Therefore this research presents the following recommendations that would highlight the findings of the study, and the conclusions that have been drawn:*
  - *1. Students must remain focused and motivated in the class.*
  - *2. If possible there should always be Teacher- student interaction.*
  - *3. Instructors should identify and support struggling students.*
  - *4. Make the discussion meaningful.*
  - *5. Provide clear guidance and instructions in every activity so students will understand the task given to them.*

## CONCLUSION

- *In conclusion, the research will provide evidence in determining if there is a considerable difference in the academic performance of students between online and in-class students for different types of courses. The data will be collected from a survey. The results will further provide observations of the relationship between student's academic performance and the class delivery method, either in-class or online. The evidence will enable educational institutions to decide if education systems should gear towards utilizing online learning more as a platform for learning. A bigger dataset would provide a fairer study as our preliminary study only involves 10 students.*
- *Online courses can have both positive and negative effects on a student's academic performance. Some potential benefits of online courses include the ability to learn*

*at one's own pace, the flexibility to access course materials and complete assignments on one's own schedule, and the opportunity to take courses that might not be available locally. However, online courses can also pose challenges, such as the lack of in-person interaction with instructors and classmates, the need for self-motivation and discipline, and the possibility of technical issues.*

- *Overall, the impact of online courses on a student's academic performance will depend on the individual student and their learning style, as well as the quality of the course and the support provided by the instructor. Some students may find that they excel in an online learning environment, while others may struggle. It is important for students to consider their own strengths and needs when deciding whether to take an online course.*

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