# CHAPTER 4
# DATA ANALYSIS AND INTERPRETATION

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This chapter focuses on the findings and analysis of this present study. This section of the study is dedicated to analyzing, interpreting, and discussing the findings of each of the objectives. Both qualitative and quantitative methodologies were applied to analyze the collected data.

## 4.1 Analysis of the Objective No. 1

> **Objective 1: To study the institutional practices towards MOOCs implementation in the higher education institutions of Assam with reference to the prescribed norms of UGC.**

To investigate the objective no. 1, data were collected from the SWAYAM coordinators and SWAYAM course coordinators through questionnaires. The responses related to the Institutional practices have been categorized into the following sub-dimensions.

i.    Adoption
ii.   Promotion
iii.  Awareness

## 4.1.1 SWAYAM Coordinators' response on Institutional Practice towards Swayam MOOCs

### Adoption of MOOCs

**Table 4.1.1 SWAYAM Coordinators' response on the adoption of MOOCs in higher education institutions.**

| Sl no | Item | Yes | No |
|---|---|---|---|
| i. | SWAYAM coordinator is aware of the UGC Amendment 2021 related to SWAYAM MOOCs | 90% | 10% |
| ii. | University adopting MOOCs under the SWAYAM portal | 100% | 00% |

| iii. | University has specific policies and guidelines governing the practice of MOOCs programs | 100% | 00% |
| iv. | Universities develop MOOCs programmes | 30% | 70% |
| v. | Requests received from students to adopt SWAYAM MOOCs in our university | 60% | 40% |
| vi. | Knowledge of various SWAYAM National Coordinators | 100% | 00% |

**Figure-4.1.1 SWAYAM Coordinators' response on the adoption of MOOCs in higher education institutions.**
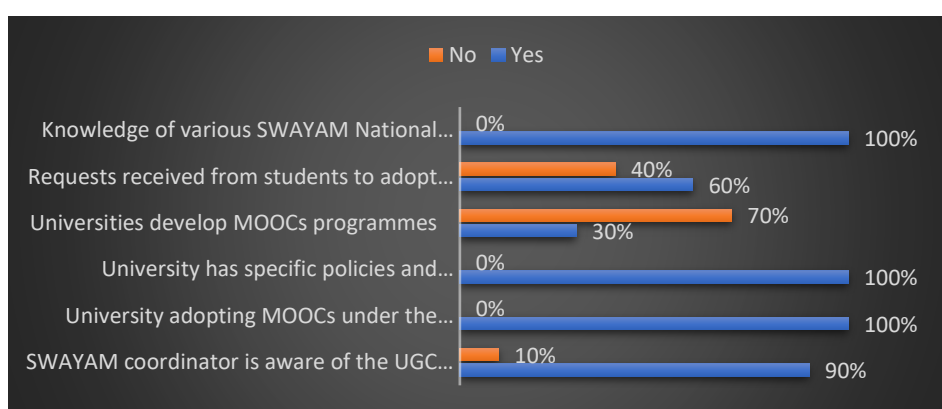


Table 4.1.1 and Figure 4.1.1 results depicted that 90% of SWAYAM coordinators were aware of the UGC Amendment 2021 related to SWAYAM MOOCs, whereas 10% of SWAYAM coordinators were not aware of the UGC Amendment 2021 related to SWAYAM MOOCs.

The above table indicates that each of the ten universities mentioned was actively participating in and utilizing MOOCs through the SWAYAM portal. The fact that all ten universities were adopting MOOCs under the SWAYAM portal suggests a widespread and coordinated effort among these institutions to leverage online learning resources for educational purposes.

The above table and figure show that all ten universities had adopted MOOCs under the SWAYAM portal, and they had specific policies and guidelines for the practice of MOOC programs.

The response indicates that 30% of the universities were actively involved in the development of MOOC programs, while 70% did not engage in such development. The finding suggests that a significant portion of the university's focus was on creating MOOCs, which were online courses designed for large-scale participation and open access via the Internet.

The results indicate that a significant majority of students (60%) at the universities have requested the adoption of SWAYAM MOOCs. However, it was also important to note that 40% of students have not made such a request.

The finding indicates that all ten SWAYAM coordinators were fully aware of the different SWAYAM National Coordinators.

**Awareness of MOOCs**

**Table 4.1.2 Percentage of SWAYAM coordinator response regarding encouraging students to take SWAYAM MOOCs courses**

| Item | Yes | No |
|---|---|---|
| Up to 40% of courses in a Program can be on SWAYAM: It encourages students to take SWAYAM MOOCs courses. | 50% | 50% |

**Figure 4.1.2 Percentage of SWAYAM coordinator response regarding encouraging students to take SWAYAM MOOCs courses**
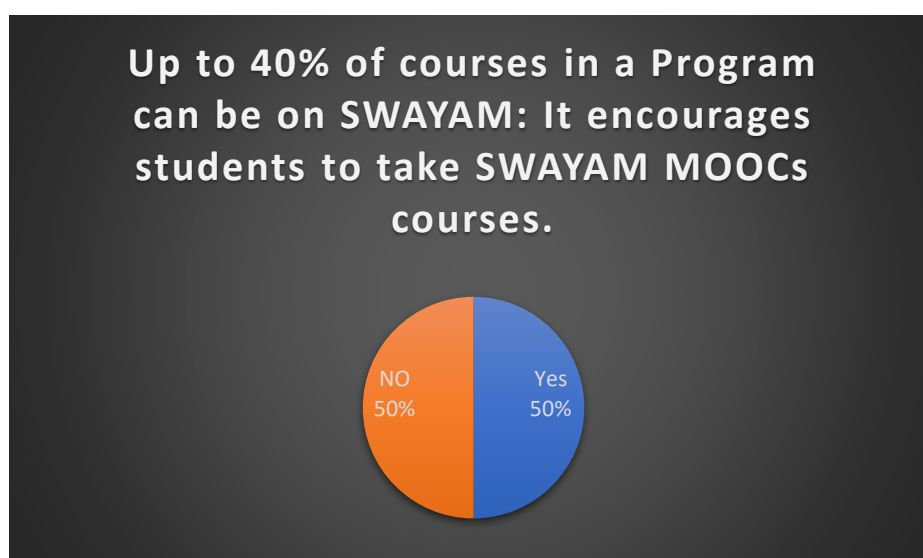
The outline of Table 4.1.2 displays the percentage of SWAYAM Coordinators' views on "up to 40% of courses in a program that can be on SWAYAM". It showed that 50% of the SWAYAM coordinators have positive views on 'Up to 40% of courses in a Program could be on SWAYAM' that they appreciate the flexibility, accessibility, and affordability of SWAYAM MOOCs and 50% of the SWAYAM coordinators' negative views on this topic means they were highly concern about the quality of online education, lack of face-to-face interaction and self-discipline required for online learning. The SWAYAM coordinators stated the following reasons:-

However, if these criteria were not met, students may be less inclined to choose SWAYAM MOOCs. The reflections of SWAYAM coordinators regarding student participation in SWAYAM MOOCs varied. Among the respondents, there were differing perspectives regarding the adequacy of the 40% threshold of courses available on the SWAYAM portal to incentivize student engagement with SWAYAM MOOCs.

In agreement regarding the benefit for learners, one of the SWAYAM coordinators stated, *"Up to 40% of the courses on the SWAYAM portal are precious. SWAYAM MOOCs hold national-level recognition and are widely accepted in higher education. To maximize their impact, program coordinators should focus on increasing awareness among learners. Moreover, ensuring high-quality content and effective lecture delivery is crucial for enhancing the learning experience"* (**sc1**).

In agreement with the above, another SWAYAM coordinator stated, *"SWAYAM courses offer a unique opportunity for learners to not only gain knowledge but also to compete and interact with a diverse group of learners from different age groups. This exposure can enhance their learning experience and broaden their perspectives"* **(sc2).**

*"The well-designed course contents on SWAYAM can greatly benefit students. However, it is crucial for teachers to actively raise awareness and encourage learners to take advantage of these resources. By doing so, we can ensure that students fully benefit from the expertise behind these courses"***(sc3)**

There is additional evidence that supports the idea that *" I think that relevance is crucial for students to apply their learning directly to their academic pursuits. It ensures that the knowledge gained is practical and immediately applicable to their studies.*

*Moreover, it enhances Students motivation and engagement with the course material, leading to a more fulfilling learning experience"* **(sc4)**.

One of the respondents stated that the SWAYAM course should be mandatory, *"I believe that making SWAYAM courses mandatory for all students will not only increase enrollment in MOOCs but also ensure that all students benefit from the valuable learning opportunities offered by the program"* **(sc5).**

On the other hand, another participant stated, *" Under the SWAYAM portal, especially in NPTEL courses, it is challenging for teachers to assess students, which can create difficulties in transferring credits. However, with proper guidance and support from program coordinators, these challenges can be overcome, ensuring a smoother learning experience for both teachers and students. Moreover, incorporating more interactive assessment methods could enhance the overall effectiveness of SWAYAM MOOCs"* **(sc1).**

Another participant assured that they should implement robust quality assurance measures to ensure the effectiveness and credibility of the MOOC program. *"There is indeed an issue related to quality. The quality control of the program will be a major concern. However, after improvements in the quality, I believe it can be beneficial for higher education. Moreover, ensuring the courses are updated and relevant to current industry standards will further enhance their value"* **(sc2).**

One of the respondents stated, *"From my perspective, MOOC courses offered through SWAYAM are not equivalent to regular offline courses. There is a perception issue surrounding the value of these courses, especially in terms of the skills they provide. However, with proper awareness and encouragement from teachers, students can benefit significantly from the well-designed course contents, ultimately enhancing their learning experience"* **(sc3).**

*"SWAYAM courses create confusion among learners regarding the suitability of online courses for their job prospects or higher educational pursuits. Furthermore, individuals often struggle to find the right balance between work commitments and dedicating time to online learning"* **(sc4).**

*"Lack of infrastructure is a major barrier to getting everyone online. It's not just about having an internet connection but having a reliable and high-speed connection that allows people to participate in the digital world truly. This means being able to stream educational videos, attend online courses, participate in video conferencing, and much more. Without this level of access, people are left behind in terms of education, job opportunities, and even basic communication. There is also the issue of affordability, as well as physical infrastructure. Many low-income families cannot afford the cost of internet service, even in areas where it is available. This creates a digital divide that can perpetuate social and economic inequalities"* **(sc5).**

**Table 4.1.3 Percentage of SWAYAM coordinator response regarding training programs organized for *SWAYAM instructors* regarding designing SWAYAM MOOCs**

| Item | Yes | No |
|------|-----|-----|
| Training programs have been organized for SWAYAM instructors regarding designing SWAYAM MOOCs | 90% | 10% |

**Figure 4.1.3 Percentage of SWAYAM coordinator response regarding training programs organized for SWAYAM instructors regarding designing SWAYAM MOOCs**



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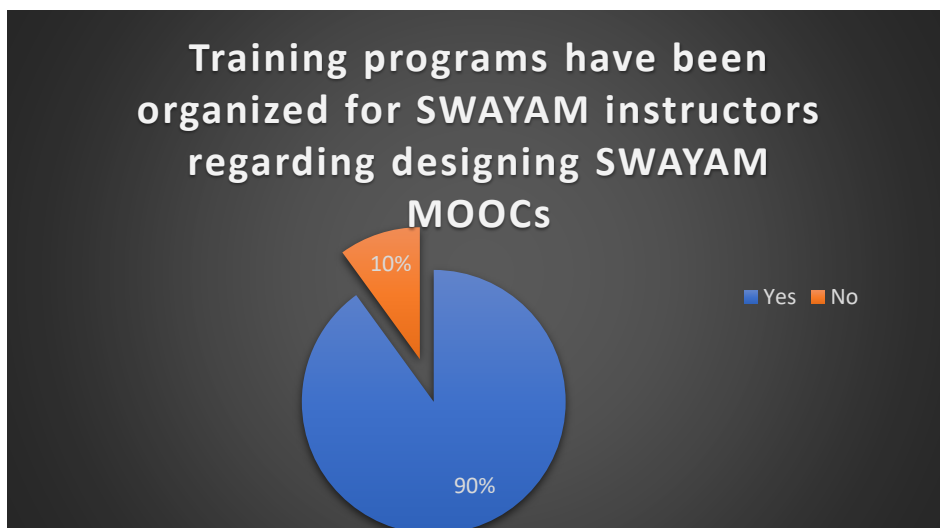
The survey result indicates that the majority (90%) of the universities have organized training programs for SWAYAM instructors on designing MOOCs. However, 10% of universities have not organized such training programs.

**Table 4.1.4 Percentage of SWAYAM coordinator response regarding organized training programs for *SWAYAM course coordinators* regarding designing MOOCs**

| Item | Yes | No |
|------|-----|-----|
| Training programs have been organized for SWAYAM course coordinators regarding designing MOOCs | 20% | 80% |

**Figure 4.1.4 Percentage of SWAYAM coordinator response regarding organized training programs for SWAYAM course coordinators regarding designing MOOCs**
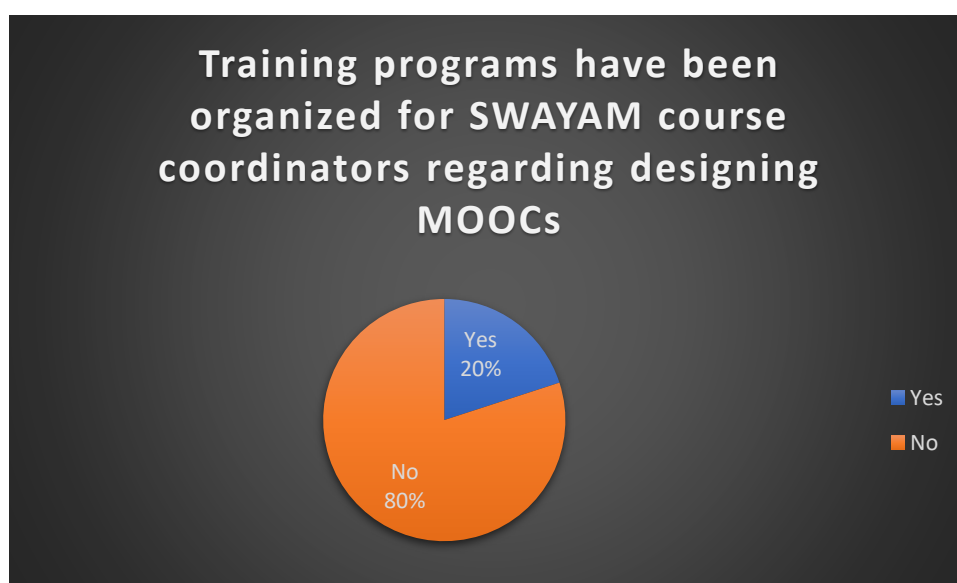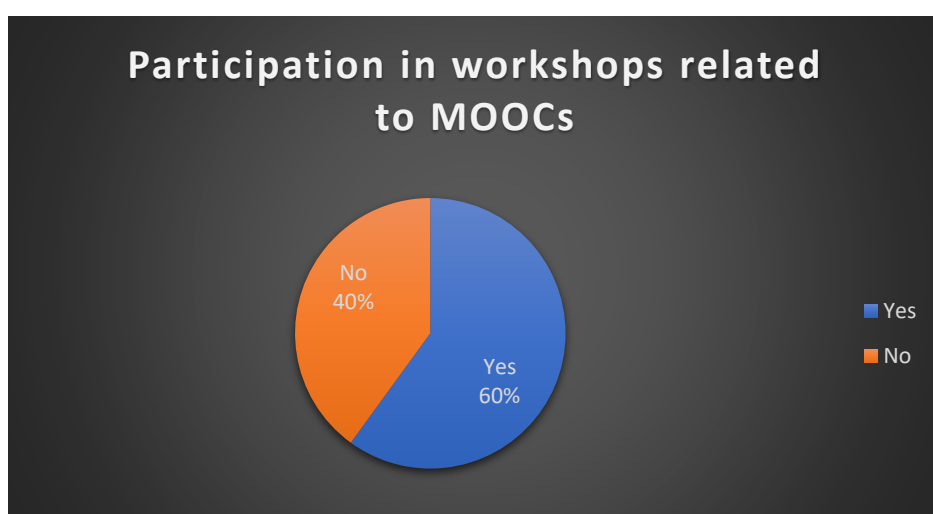


**Interpretation**

According to the findings, 20% of the responses indicated that training programs for SWAYAM course coordinators regarding designing MOOCs have been organized, suggesting a proactive approach towards enhancing the quality and effectiveness of MOOCs. However, the overwhelming 80% negative response highlights the fact that the SWAYAM Coordinators have organized no such programs.

**Table 4.1.5 Percentage of SWAYAM coordinator response regarding participation in workshops related to MOOCs**

| Item | Yes | No |
|---|---|---|
| Participation in workshops related to MOOCs | 60% | 40% |

**Figure 4.1.5 Percentage of SWAYAM coordinator response regarding participation in workshops related to MOOCs**



**Interpretation**

Table 4.1.5 shows how frequently the SWAYAM Coordinator participated in different workshops related to MOOCs. The result indicated that 60% of the SWAYAM Coordinators actively participated in workshops related to MOOCs, while 40% of the SWAYAM Coordinators did not participate in such courses.

**Table 4.1.6 Number of workshops Participated by SWAYAM coordinators related to MOOCs**

| Participant | Workshop attended |
|---|---|
| sc1 | • Two workshops conducted by AICTE<br>• One workshop conducted by UGC<br>• One workshop conducted by IITM |
| sc2 | • NPTEL, IIT MADRAS |

| sc3 | • NPTEL workshop organized by AICTE and IITKGP |
|------|------|
| sc4 | • Workshop conducted by EMRC, University on the development of MOOCs |
| sc5 | • Two workshops conducted by AICTE<br>• One workshop conducted by UGC<br>• One workshop conducted by IITM |

The participation of SWAYAM coordinators in workshops related to MOOCs demonstrates a proactive engagement in enhancing their skills and knowledge in online education. They have attended workshops conducted by various reputable institutions such as AICTE, UGC, IIT MADRAS, IITKGP, and EMRC of Dibrughar University. These workshops likely covered a range of topics crucial for effective MOOCs development and management, including content creation, pedagogy for online learning, technological tools, and strategies for learner engagement. This participation indicates a commitment to professional development and readiness to implement best practices in MOOC delivery, ultimately benefiting the SWAYAM platform and its users. The participants participated in the following types of workshops: -

**Table 4.1.7 Percentage of SWAYAM coordinator response regarding the organisation of awareness programs for students with regard to MOOCs**

| Item | Yes | No |
|------|-----|-----|
| **Organised awareness programs for students with regard to MOOCs** | 90% | 10% |

**Figure 4.1.6 Percentage of SWAYAM coordinator response regarding the organisation of awareness programs for students with regard to MOOCs**
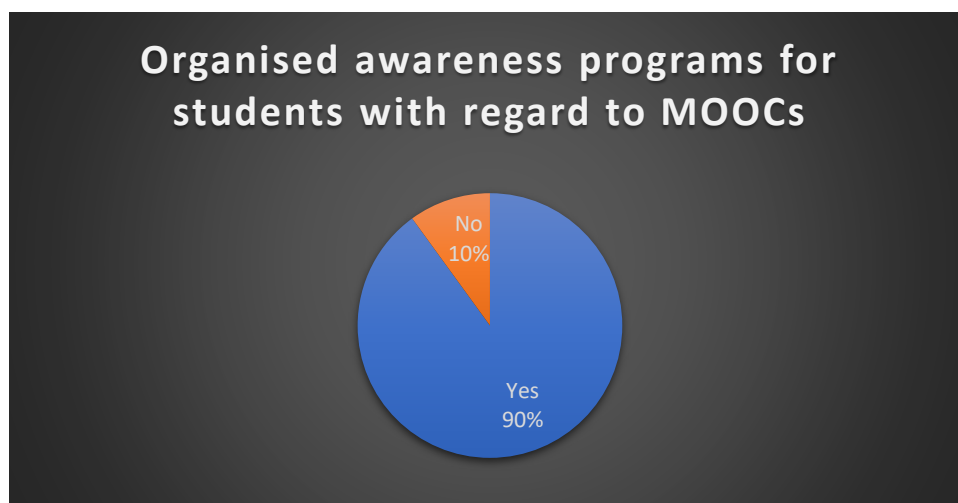


**Interpretation**

Table 4.1.7 shows that the majority (90%) of the program coordinators organized awareness programs for students regarding MOOCs, as it was essential to focus on the benefits and opportunities that MOOCs offer. However, 10% of universities did not organize such awareness programs. Most of the awareness programme programs include informational sessions, workshops, webinars, and orientation programs aimed at educating students about the various MOOCs platforms. The following is the list of awareness programs organized for students stated by the SWAYAM coordinator.

**Table 4.1.8 Number of Awareness Programs/Sessions organised by the SWAYAM Coordinator regarding SWAYAM MOOCS**

| Participant | Organised Awareness Programs/Sessions regarding SWAYAM MOOCS. |
|---|---|
| sc1 | • During the morning assembly, making aware to the students<br>• Faculty Development Program for faculty members |
| sc2 | • One orientation programme on SWAYAM MOOCS. |

| sc3 | ❖ Workshops are organized to discuss the adoption and advantages of SWAYAM MOOCS. |
|---|---|
| sc4 | ❖ Online webinar oraganised about SWAYAM MOOCS. |
| sc5 | ❖ A departmental-level orientation programme about SWAYAM MOOCS is conducted every year. |
| sc6 | ❖ A departmental-level awareness program about SWAYAM MOOCS was organized. |
| sc7 | ❖ In the classes, sometimes, the awareness program about SWAYAM MOOCS was organized informally. |
| sc8 | ❖ Departmental level awareness program oraganised. |
| sc9 | ❖ Departmental-level awareness programmes for meritorious students and students were aware of the benefits of MOOCs and other processes of opting for courses in MOOCs. |

The above table 4.1.8 indicates that the program course coordinators have implemented various initiatives to raise awareness among students about MOOCs offered through SWAYAM. These efforts include conducting morning assembly sessions to inform students about MOOCs, organizing Faculty Development Programs to educate faculty members about MOOCs, and hosting orientation programs focused on SWAYAM MOOCs. Workshops and webinars have also been organized to discuss the adoption and advantages of MOOCs, while departmental-level orientation programs are conducted annually to familiarize students with SWAYAM MOOCs. Furthermore, departmental-level awareness programs are held regularly to inform students about the benefits of MOOCs and the process of opting for courses. Awareness programs are sometimes conducted informally in classes to engage students more effectively. Overall, these initiatives aim to ensure that students and faculty are well-informed about the opportunities and benefits of SWAYAM MOOCs, encouraging their active participation in online learning.

**Table 4.1.9 SWAYAM coordinator offering professional development and support to MOOCs coordinator**

| Item | Percentage |
|---|---|
| Assigned as an adviser | 13.33% |
| Provided MOOC-related books, report | 13.33% |
| Organise training programs in online pedagogy | 13.33% |
| Provided a formal demonstration or presentation of the feature, activities | 33.33% |
| None of the above | 26.67% |

**Figure-4.1.7 SWAYAM coordinator involved in offering professional development and support to other MOOCs coordinator**
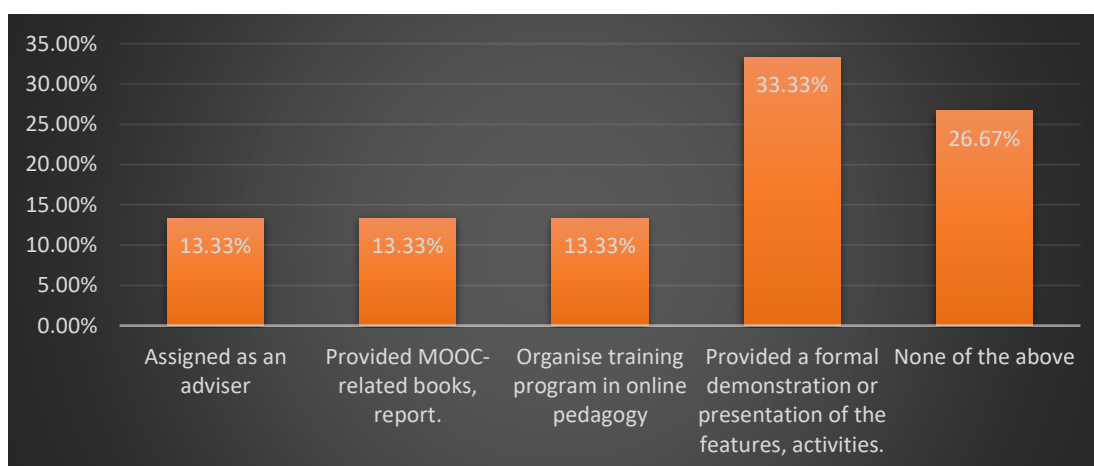


**Interpretation**

The finding suggests that 13.33% percentage of instructors received personalized guidance and advice from the SWAYAM coordinator. They were advised to be involved in discussions on course content, teaching methodologies, engagement strategies, assessment techniques, and overall improvement of their MOOCs.

This finding also indicated that 13.33% of instructors received MOOC-related books and reports covering topics such as online education, instructional design, technology integration, and other pertinent topics. The purpose of these resources was to enhance instructors' knowledge base and effectiveness in delivering MOOCs.

According to the findings, 13.33% of instructors participated in formal training sessions that specifically addressed online pedagogy. These programs might have covered topics such as course design, learner engagement, communication strategies, assessment methods, and utilization of learning technologies effectively in the online environment.

This finding indicates that 33.33% of instructors received hands-on demonstrations of various features, activities, or tools available within the MOOC platform. The purpose of these demonstrations was to acquaint instructors with the features and capabilities of the platform, illustrating how to utilize them efficiently in order to improve the quality of teaching and learning.

This finding indicates that 26.67% of instructors did not receive any of the forms above for professional development or support. This finding might suggest a gap in the support system, or perhaps some instructors preferred to engage in self-directed learning or relied on other sources for professional development.

## Promotion of MOOCs

**Table 4.1.10 SWAYAM Coordinators' response on the promotion of MOOCs**

| Sl No | Item | Yes | No |
|-------|------|-----|-----|
| i. | Incentives were provided to the teachers for developing the SWAYAM Course. | 30% | 70% |
| ii. | Incentives were provided to the students for participating in the SWAYAM MOOCs course. | 10% | 90% |
| iii. | Database was available for those students who are joining different MOOCs under the SWAYAM portal. | 90% | 10% |

**Figure 4.1.8 SWAYAM Coordinators' response on the promotion of MOOCs**
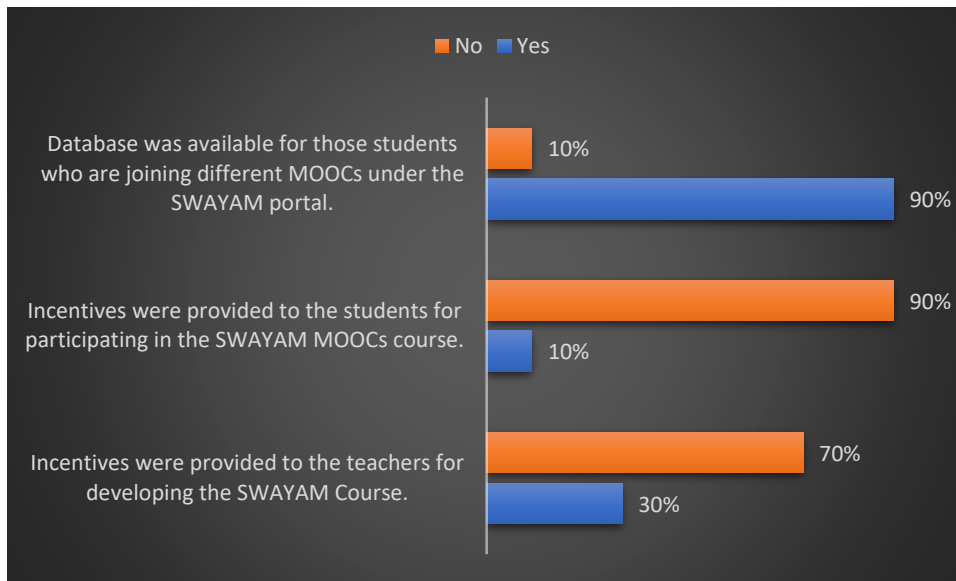


The findings in Table 4.1.10 revealed that there was a varied landscape in teacher motivation and institutional support, as seen by the fact that 30% of instructors receive incentives for developing SWAYAM courses. In comparison, the remaining 70% do not. The recipients of incentives are likely to experience many benefits, such as increased recognition, cash awards, and possibilities for professional growth. These benefits have the potential to foster creativity and facilitate the construction of high-quality courses. On the other hand, the lack of incentives may bring attention to voluntary efforts that are motivated by internal factors and institutional cultures that prioritize educational progress without providing concrete rewards.

The findings in Table 4.1.10 indicated that 10% of the SWAYAM Coordinators believe that there are no direct incentives provided to students for participating in these courses. This could be because the primary incentive for students to participate in MOOCs was the acquisition of knowledge and skills rather than tangible rewards. The 10% 'Yes' responses can be attributed to the fact that some universities provided the SWAYAM examination fee during the Corona pandemic to promote the SWAYAM program. However, the majority (90%) of coordinators reported that no such incentives were provided.

The finding in Table 4.1.10 indicated that the majority (90%) of respondents expressed a strongly favourable response about the presence of a database for students

participating in various MOOCs through the SWAYAM portal. This result indicates the existence of a strong infrastructure that facilitates student involvement and monitoring inside the platform. Nevertheless, the 10% that indicates the absence of such a database may suggest possible deficiencies in data gathering and analysis, underscoring the need for additional enhancements to optimize the platform's effectiveness in meeting the varied requirements of MOOC learners.

**Table 4.1.11 Percentage of SWAYAM coordinator responses regarding monitoring of student's progress who have registered on the SWAYAM platform**

| Item | Yes | No |
|------|-----|-----|
| Monitoring of students who have registered on the SWAYAM platform. | 80% | 20% |

**Figure 4.1.9 Percentage of SWAYAM coordinator response regarding monitoring of student's progress who have registered on the SWAYAM platform**
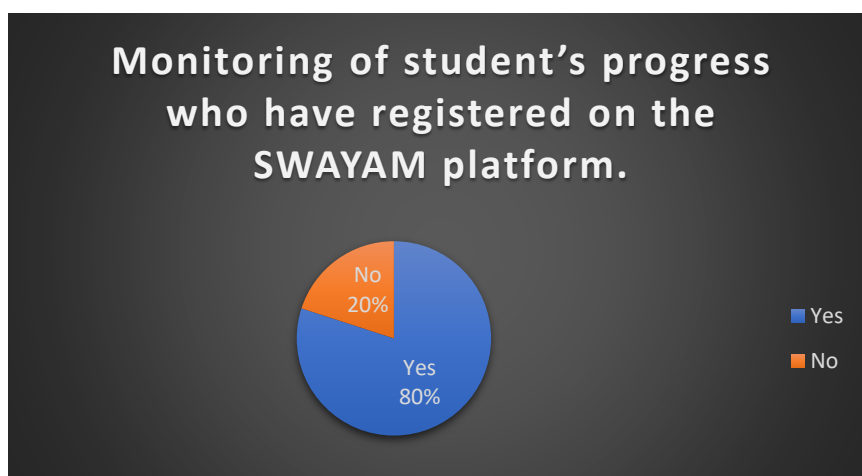


According to the findings, 80% of universities actively monitor Students progress on the SWAYAM platform, which reflects a commendable dedication to ensuring the efficacy of SWAYAM initiatives. However, 20% of universities do not engage in such monitoring, which highlights a concerning gap in support mechanisms for students utilizing the SWAYAM platform.

**Table 4.1.12 Percentage of SWAYAM coordinator responses regarding different ways of monitoring the student's progress who have registered on the SWAYAM platform**

| Item | Percentage |
|---|---|
| Moderator feedback | 30% |
| Tracking through peer group members' reports | 20% |
| Personal tracking from the course instructor | 20% |
| Tracking through self-evaluation technique | 10% |
| Tracking through mentors | 20% |
| Tracking through SPOC (Single Point of Contact) | 30% |
| SWAYAM coordinator personally monitors student's progress | 20% |

**Figure 4.1.10 Monitoring of students who have registered on the SWAYAM platform within the university**
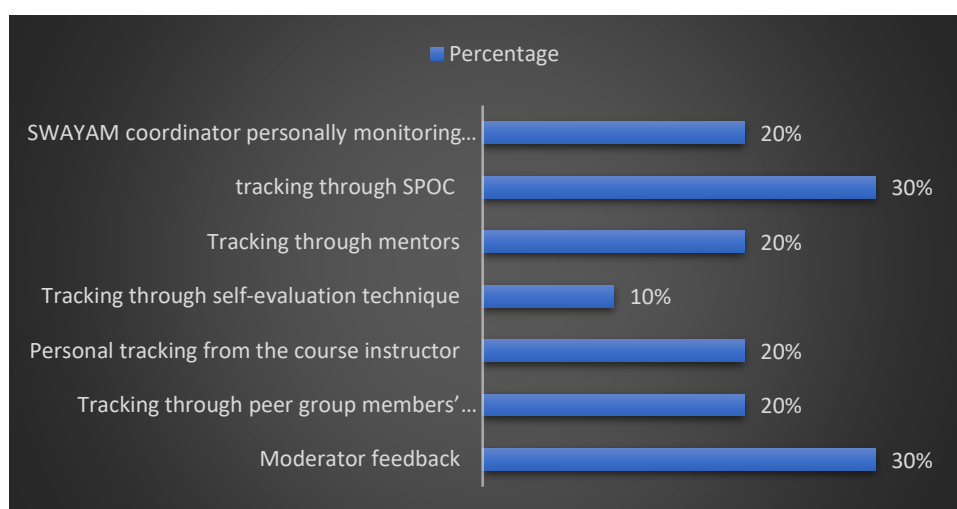


The SWAYAM Coordinator, who said yes regarding universities monitoring Students progress who have registered on the SWAYAM platform from their university, was further asked how was student progress/participation monitored or tracked. The above figure 4.4 shows that 30% of universities used moderator feedback; 20% of universities used peer group members' reports; 20% of universities used personal tracking from the course instructor; 20% of universities used personal tracking from the course instructor; 10% of universities used self-evaluation technique; 20% of universities used tracking through mentors; 30% of universities used tracking through SPOC and 20% of

universities used SWAYAM coordinator monitoring of student's progress who have registered on the SWAYAM platform from your university.

**Table 4.1.13 SWAYAM Coordinator response on different ways of motivating strategy for implementing SWAYAM MOOCs.**

| Item | Percentage |
|---|---|
| Additional compensation | 20% |
| Administrator support or encouragement | 70% |
| Colleague support or encouragement | 90% |
| Technical support | 30% |
| Teaching or service recognition | 30% |
| Happiness and commitment | 20% |
| Help the university grow | 40% |
| Valuable item for annual faculty productivity reports | 30% |
| Financial incentives | 20% |

**Figure 4.1.11 SWAYAM Coordinator response on different ways of motivating strategy for implementing SWAYAM MOOCs**
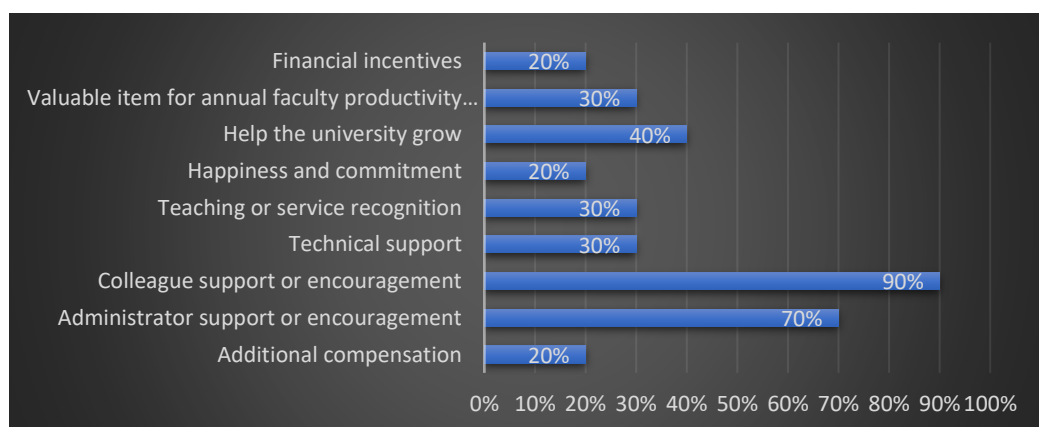


The outline of Table 4.1.13 displays the responses of the SWAYAM Coordinators towards what are the remunerations or motivation they are getting for implementing SWAYAM MOOCs. The finding demonstrated that the majority (90%) of the respondents said they get colleague support encouragement; 70% of respondents get administrator support or encouragement; 20% of respondents get additional compensation; 30% of respondents get technical support; 30% of respondent get

teaching or service recognition; 20% of respondent get happiness and commitment; 20% of respondent get help the university to grow; 30% of respondent get valuable item for annual faculty productivity reports and 20% of respondent get financial incentives for implementing SWAYAM MOOCs.

**Figure 4.1.12 Various ways of promotion for implementation of SWAYAM MOOCs in higher education institutions by the SWAYAM coordinator (Informal Promotions)**
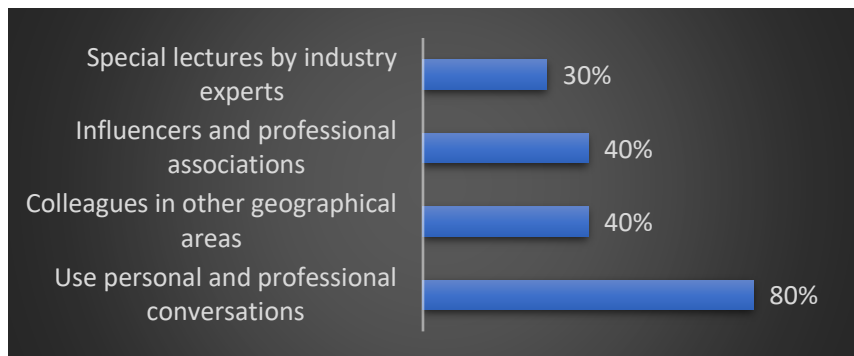


Figure 4.1.12 revealed how SWAYAM coordinators promote SWAYAM MOOCs in higher education institutions in an informal way. It has been found that the majority (80%) of the SWAYAM Coordinators use personal and professional conversations; 40% of the respondents use colleagues in other geographical areas, 40% of the respondents use influencers and professional associations, and 30% of the SWAYAM Coordinators use special lectures by industry experts promoting SWAYAM MOOCs in higher education institution.

**Figure 4.1.13 SWAYAM Coordinator response regarding various ways of the aspect used for Informal Promotions (by Institution)**
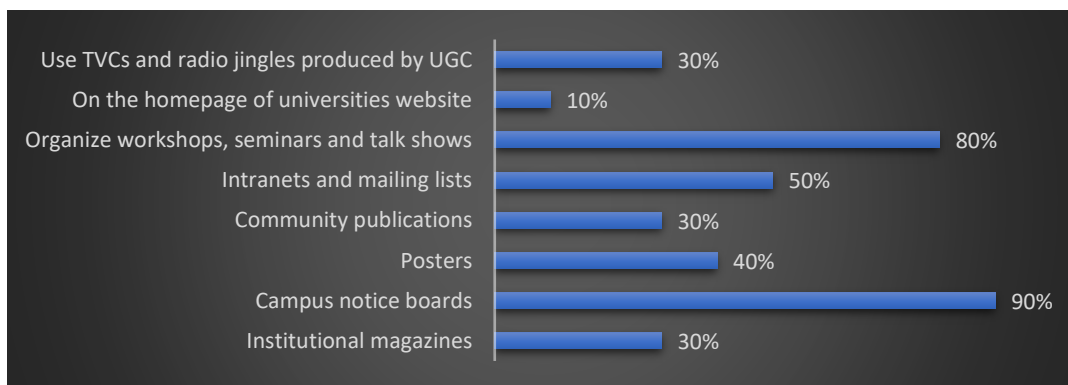
Figure 4.1.13 revealed how SWAYAM coordinators promote SWAYAM MOOCs in higher education institutions in a formal way. It has been found that the majority (80%) of the SWAYAM Coordinators use campus notice boards; 80% of the respondents use organized workshops, seminars, and talk shows; 40% of the respondents use institutional magazines; 30% of the SWAYAM Coordinators use community publications; 50% of the SWAYAM Coordinators use community publications; 10% of the SWAYAM Coordinators use on the homepage of universities website; 30% of the SWAYAM Coordinators use TVCs and radio jingles produced by UGC and 40% of the SWAYAM Coordinators use posters for promoting SWAYAM MOOCs in higher education institutions.

**Figure 4.1.14 SWAYAM Coordinator response regarding various ways of the aspect Used for social media (by faculty & universities/ institutions/students)**
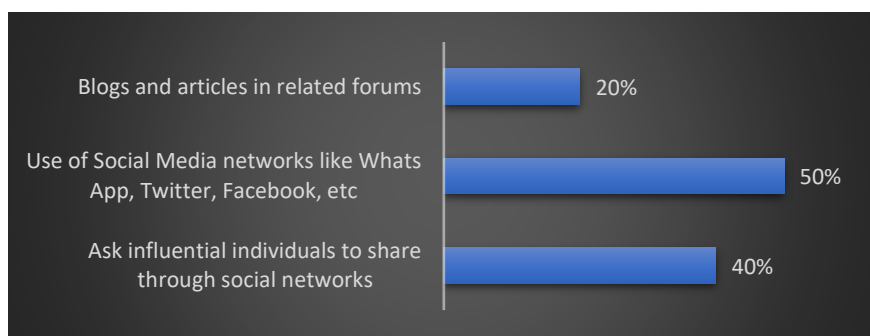


Figure 4.1.14 revealed how SWAYAM coordinators promote SWAYAM MOOCs in higher education institutions through social media. It has been found that the majority (50%) of the SWAYAM Coordinators use Social Media networks like Whats App, Twitter, Facebook, etc; 40% of the respondents ask influential individuals to share through social networks, and 20% of the respondents use blogs and articles in related forums for promoting SWAYAM MOOCs in higher education institutions.

**Figure 4.1.15 SWAYAM Coordinator response regarding the percentage of physical facilities available for the participants**
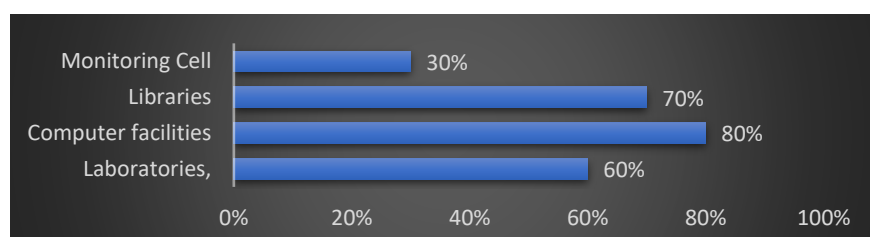
Figure 4.1.15 indicates that 60% of participating institutions have laboratories accessible to students; the majority of institutions (80%) have sufficient access to computers for the student; 70 % of participating institutions have libraries accessible to students 30% of the responses indicate that fewer participating institutions have dedicated monitoring cells in place to assist students in efficiently participating and completing the MOOCs.

**4.1.2 SWAYAM Course Coordinators response on Institutional Practice towards SWAYAM MOOCs**

**Adoption of MOOCs**

**Table 4.1.14- SWAYAM course Coordinators' response on the adoption of MOOCs in higher education institutions.**

| SL NO | Item | Yes | No |
|---|---|---|---|
| i. | Universities are adopting MOOCs under the SWAYAM portal. | 100% | 00% |
| ii. | Aware of different SWAYAM National Coordinators. | 100% | 00% |
| iii. | SWAYAM course coordinators are aware of the UGC Amendment 2021 related to SWAYAM MOOCs. | 85.71% | 14.28% |

**Figure 4.1.16 SWAYAM course Coordinators' response on the adoption of MOOCs in higher education institutions.**
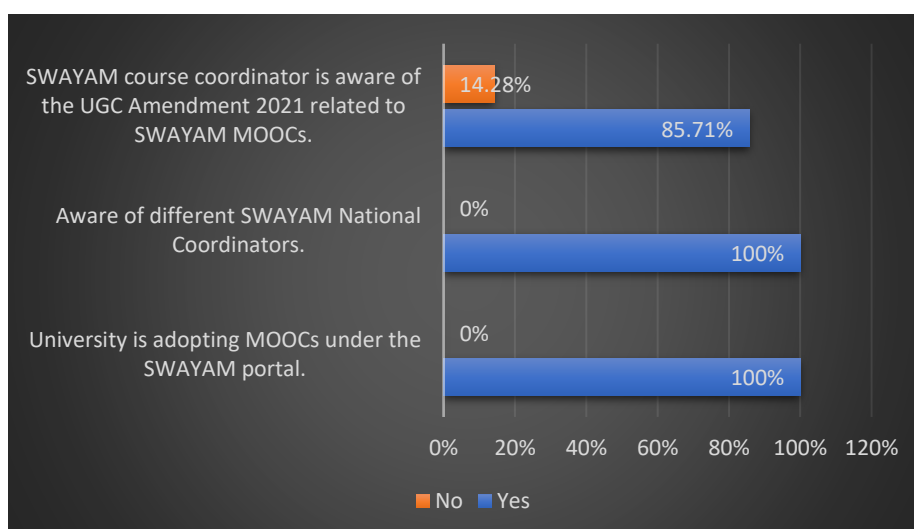
**Interpretation:**

Table 4.1.14 indicated that each of the ten universities mentioned was actively participating in and utilizing MOOCs through the SWAYAM portal. The fact that all ten universities are adopting MOOCs under the SWAYAM portal suggests a widespread and coordinated effort among these institutions to leverage online learning resources for educational purposes.

Table 4.1.14 indicates the 100% awareness of different SWAYAM National coordinators indicates a high level of knowledge and understanding among the SWAYAM course coordinators.

The results revealed that 85.71% of SWAYAM course coordinators were aware of the UGC Amendment 2021 related to SWAYAM MOOCs, whereas 14.28% of SWAYAM course coordinators were not aware of the UGC Amendment 2021 related to SWAYAM MOOCs.

**Table 4.1.15- Different ways in which instructor-learner Interaction is encouraged in their MOOCs.**

| Item | Percentage |
|------|-----------|
| Online discussion forum | 92.86% |
| Personal email | 78.57% |
| MOOCs platform message | 92.86% |
| Social media connections (e.g., Facebook, Twitter) | 14.29% |
| Virtual Meeting | 57.14% |

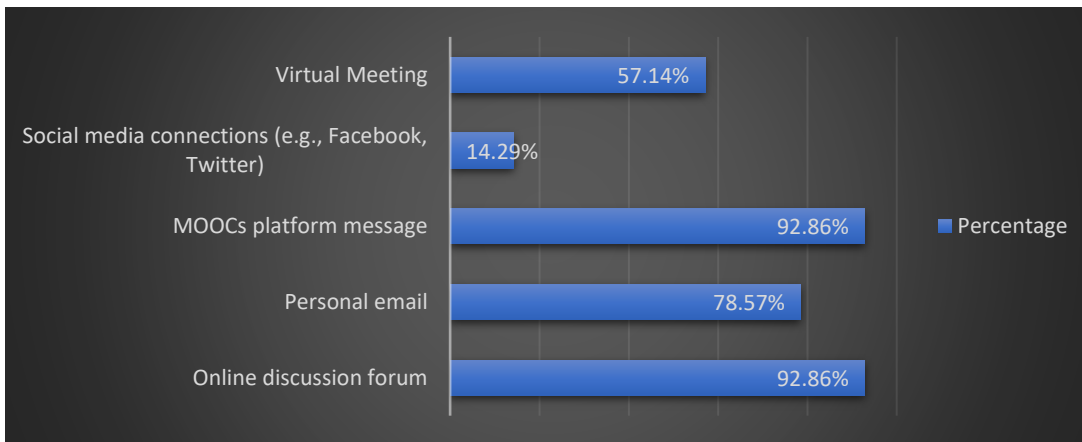**Figure 4.1.17 Different ways in which instructor-learner Interaction is encouraged in their MOOCs.**



Figure 4.1.17 depicts how instructor-learner interaction is encouraged in their MOOC. It has been found that 92.86% of the SWAYAM course coordinators interact through online discussion forums; 92.86% of the respondents interact through MOOCs platform messages; 78.57% of the respondents interact through personal mail; 57.14% of the SWAYAM course coordinators interaction through virtual meeting and 14.29% of the SWAYAM course Coordinators interaction through social media connections (e.g., Facebook, Twitter) to encourage in their MOOCs.

**Table 4.1.16 Percentage of SWAYAM course coordinator response regarding different Ways students get feedback in the MOOCS.**

| Item | Percentage |
|---|---|
| Instructor feedback | 100% |
| Peer feedback | 100% |
| self-feedback | 57.14% |
| System feedback | 71.43% |
| Assignment rubrics | 14.28% |
| Feedback through discussion forum | 7.14% |

**Figure 4.1.18 Percentage of SWAYAM course coordinator response regarding different Ways students get feedback in the MOOCS.**
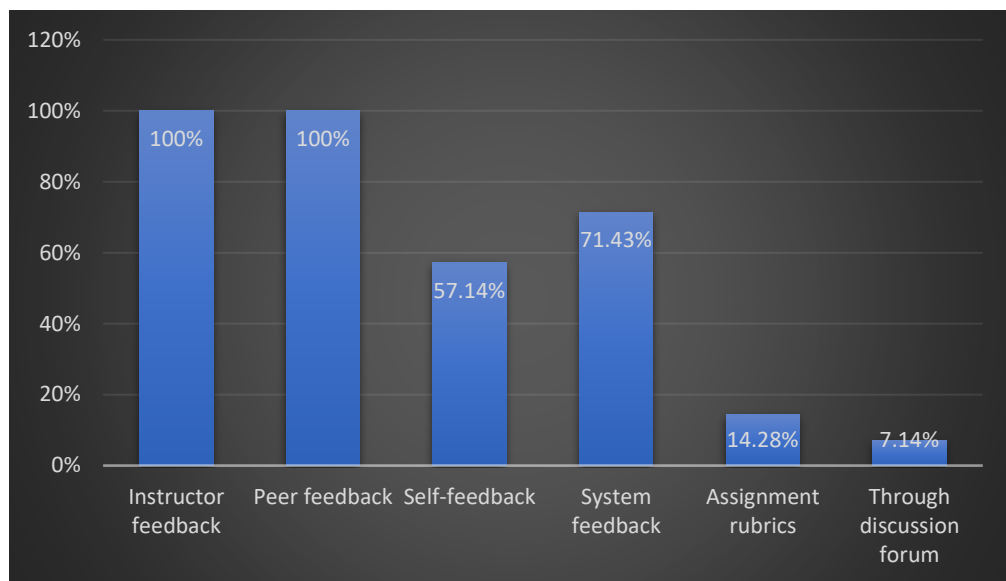


Table 4.1.16 revealed the different ways students get feedback in MOOCs. It has been found that 100% of the SWAYAM course coordinators use instructor feedback; 100% of the respondents use peer feedback; 57.14% of the respondents use self-feedback; 71.43% of the SWAYAM course coordinators use system feedback; 14.28% of the SWAYAM course coordinators use assignment rubric and 7.14% of the SWAYAM course coordinators use discussion forums to provide feedback in SWAYAM MOOCs.

**Table 4.1.17 Percentage of support received by the SWAYAM course coordinator during teaching in SWAYAM MOOCs**

| Item | Response |
|---|---|
| Teaching or service recognition | 28.57% |
| Technical support | 92.86% |
| Colleague support or encouragement | 42.86% |
| Administrator support or encouragement | 71.43% |
| Monetary benefit | 85.71% |

**Figure 4.1.19 Percentage of support received by the SWAYAM course coordinator during teaching in SWAYAM MOOCs**
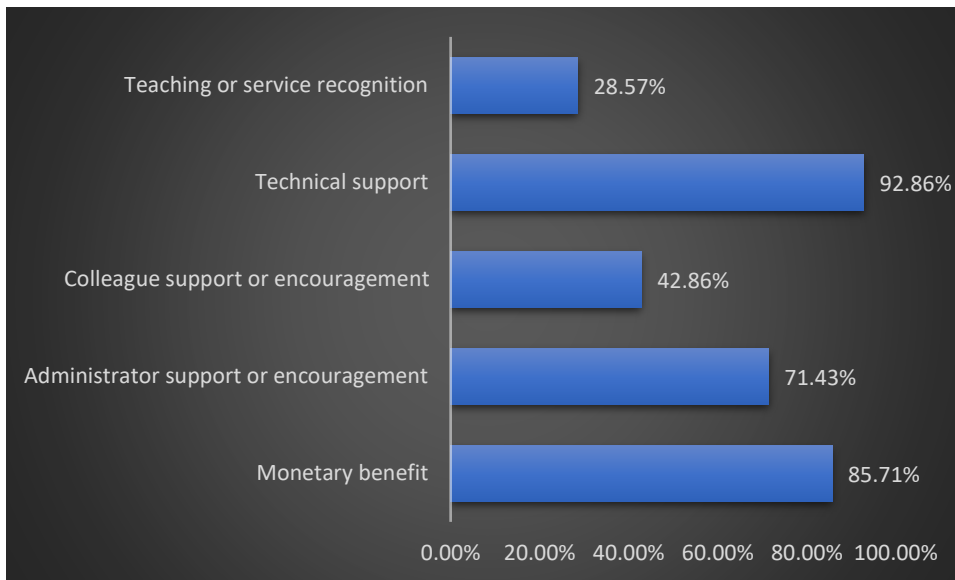


**Interpretation**

Figure 4.1.19 revealed what were the aspects received by the SWAYAM course coordinator when teaching SWAYAM MOOCs. It has been found that the majority of the (92.86%) SWAYAM course coordinators received technical support; 71.43% of the respondents received administrator support or encouragement; 85.71% of the respondents received monetary benefit; 42.86% of the respondents received colleague support or encouragement; and 28.57% of the SWAYAM course coordinators received teaching or service recognition when teaching MOOCs.

**Awareness of SWAYAM MOOCs**

**Table 4.1.18 Percentage of SWAYAM course coordinator responses regarding significant impacts of MOOCs in their teaching philosophy.**

| Item | Yes | No |
|------|-----|----|
| MOOCs significantly impact their teaching philosophy. | 100% | 00% |

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**Interpretation**

The result indicates that teaching a MOOC (Massive Open Online Course) had a significant impact on the SWAYAM course coordinators' teaching philosophy. All the SWAYAM course coordinators have positive views regarding this statement. Here are some SWAYAM course coordinators responses as to why they might have provided a positive answer:

**SWAYAM Course Coordinators reflection on the revolutionary impact of MOOCs on teaching philosophies**

The SWAYAM MOOCs have a significant effect on the teaching philosophies and practices of faculties, with a focus on lifelong learning, flexibility, and the utilization of digital technologies to boost teaching and learning experiences. They have reflected on their teaching philosophy.

*"SWAYAM offers a great opportunity for educators to broaden their knowledge base by accessing expertise from diverse fields and experts from across the country and around the globe. It allows us to stay updated with the latest trends and practices in education, enhancing our teaching effectiveness and enriching the learning experience for our students*"(scc1).

 In supporting the above, another faculty member stated, *"SWAYAM courses offer a great opportunity to teach diverse students, which can enhance my teaching skills significantly. Engaging with such a diverse learner base can broaden my perspectives and improve my effectiveness as an educator"*(scc2).

*Another response stated, "I feel proud as a teacher, not only in my institution but for all knowledge lovers, as I contribute to developing a knowledge-seeking attitude among students. The impact of SWAYAM courses is evident in the increased enthusiasm for learning, which is truly rewarding"* (scc3). *"SWAYAM courses have greatly enhanced my teaching skills, as they allow me to reach and teach a large number of students simultaneously. This has been incredibly beneficial for my professional development and has positively impacted my Students learning experiences. The relevance of the course content to my curriculum has made it easier for me to integrate these materials into my teaching methods, leading to more engaging and effective lessons"*(scc4).

*"I find that SWAYAM has brought a more systematic approach to teaching and delivering lessons, which is beneficial for preparing notes and materials that cater to a diverse student audience. The platform's structured courses help in creating content that is relevant and engaging for students from various backgrounds and learning styles. It also encourages me to explore new teaching methodologies and incorporate interactive elements to enhance the learning experience"(***scc5***).*

*"I find that up to 40% of courses on SWAYAM are relevant and beneficial. They offer a systematic approach to taking notes and preparing materials that cater to a diverse student audience. This not only enhances my learning experience but also prepares me for competition with learners of different age groups. The well-designed course contents, if made mandatory for all students, could significantly increase enrolment in MOOCs"(***scc6***).*

*"I have noticed a shift in my teaching philosophy since I started incorporating MOOCs into my teaching. I now place more emphasis on providing diverse learning materials and encouraging self-directed learning among students." (***scc7***). "Engaging with MOOCs has challenged me to rethink my teaching strategies. By embracing technology and adopting a more student-centered approach inspired by SWAYAM, I've witnessed a positive shift in student motivation and achievement." (***scc8***)*

*"By ensuring that the course content is relevant and aligned with Students needs, I can engage with large numbers of diverse learners to improve my teaching" (***scc9***). "It's a great experience engaging with large numbers of diverse learners. It improves my teaching experience and allows me to gain different perspectives and experiences from learners of various backgrounds. This diversity enriches the learning environment and enhances the overall effectiveness of the courses"(***scc10***). " The use of digital technology has significantly transformed my regular teaching pedagogy as well. Incorporating multimedia and various tools has not only made my classes more interesting but also more effective in engaging students and enhancing their learning experience. I have witnessed first-hand the positive impact of embracing digital resources in education" (***scc11***).*

*"The systematic teaching approach adopted in SWAYAM courses greatly benefits learners, enabling them to delve into topics in-depth and grasp complex concepts effectively"* (**scc12**).

*"MOOCs have transformed my teaching philosophy, emphasizing the importance of lifelong learning and adaptability. I now seek to integrate continuous learning opportunities and digital resources into my teaching practice, inspired by the MOOC experience.* (**scc13**)*".*

*"I find that SWAYAM courses, if relevant to my curriculum, can significantly enhance my teaching methods. They help me better organize my class notes and improve my communication with my students. Moreover, such courses offer a fresh perspective, enriching my teaching approach"*(**scc14**).

**Table 4.1.19 Percentage of SWAYAM course coordinator response regarding participation in workshops related to MOOCs**

| Item | Yes | No |
|------|-----|-----|
| Participated in workshops related to MOOCs. | 78.57% | 21.43% |

**Figure 4.1.20 Percentage of SWAYAM course coordinator response regarding participation in workshops related to MOOCs**
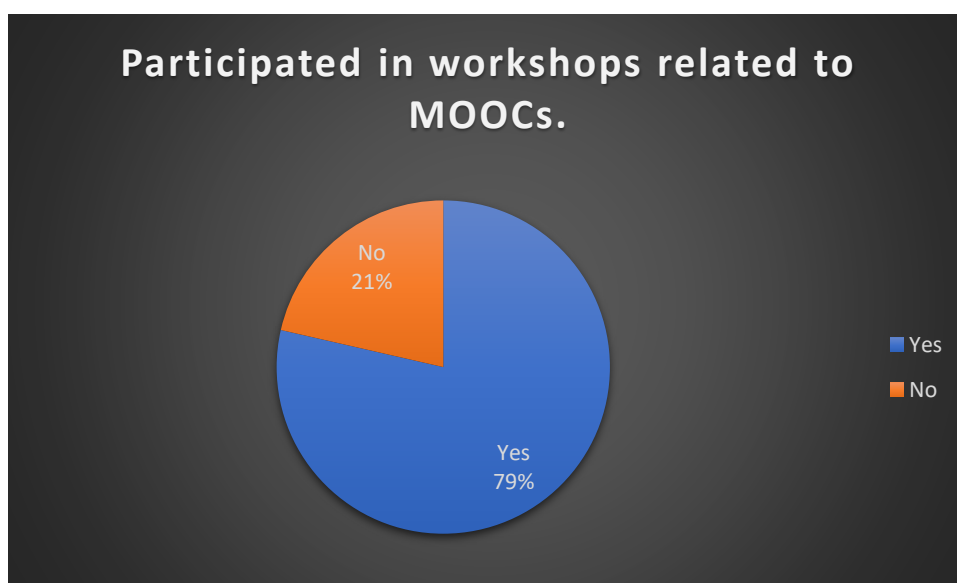
**Interpretation**

Table 4.1.19 shows how frequently the SWAYAM course coordinator participated in different MOOC-related workshops. The result indicated that 78.57% of the SWAYAM course coordinators actively participated in various MOOC-related workshops, while 21.43% of the SWAYAM course Coordinators did not participate in such courses.

SWAYAM course coordinators have participated in various workshops as stated below:

**Table 4.1.20 List of Workshops Participated by SWAYAM course coordinator**

| Sl No | List of Workshops | Participants |
|-------|-------------------|--------------|
| I | Workshops conducted by the university on how to develop MOOC courses | 4 participants |
| Ii | Workshop conducted by the PMMMNMTT on How to develop MOOC courses | 4 participants |
| Iii | Institute organised workshop on how to design resources | 3 participants |
| iv | UGC workshop in New Delhi, IIM Bangalore, and NITTK Chennai | 1 participant |

**Table 4.1.21 Percentage of SWAYAM course coordinator response regarding encouraging students to take SWAYAM MOOCs**

| Item | Yes | No |
|------|-----|-----|
| Up to 40% of courses in a Program can be on SWAYAM: It encourages students to take SWAYAM MOOCs courses. | 90% | 10% |

**Figure 4.1.21 Percentage of SWAYAM coordinator response regarding encouraging students to take SWAYAM MOOCs**
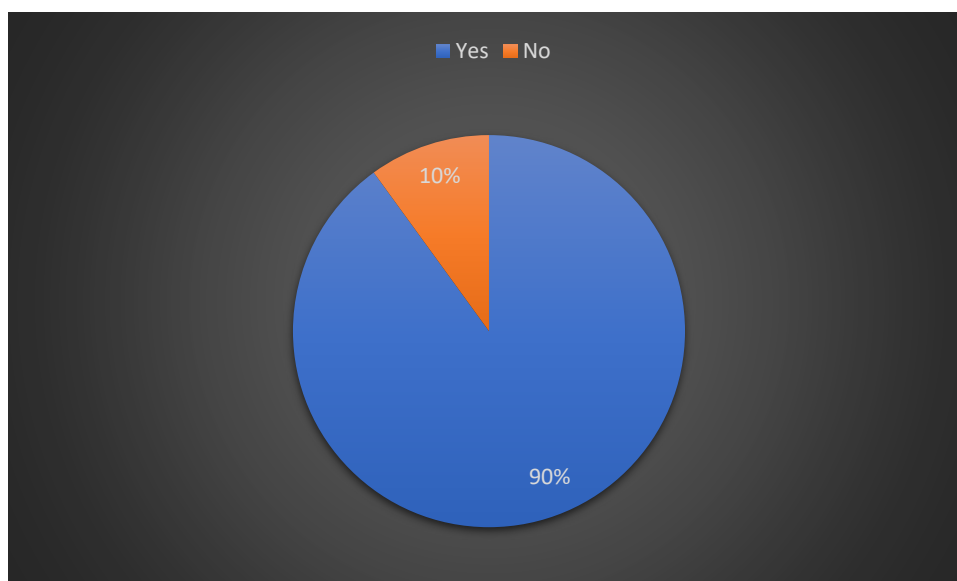


The majority of participants' optimism reflected their opinions on the SWAYAM MOOCs. They stated, *"SWAYAM courses offer students the opportunity to explore multi-disciplinary subjects, which is often limited in the formal education system. By taking these courses, students can broaden their knowledge and skills beyond their primary field of study"* (**scc1**). *"I believe that up to 40% of courses available on the SWAYAM portal can significantly benefit students. It helps attract different students and encourages them to participate in different courses that help them acquire different types of knowledge. The program coordinators should focus on enhancing the relevance of courses to Students academic needs and career aspirations"* (**scc2**).

*"SWAYAM's relevance lies in its ability to offer students a wide array of courses, allowing them to explore diverse topics and acquire the desired knowledge. This platform provides an opportunity for learners to engage with various subjects beyond their core curriculum, enhancing their overall learning experience"* (**scc3**).

*"SWAYAM offers a wide range of courses across various disciplines, allowing students to explore diverse subjects of interest. It enables students to learn at their convenience, making balancing studies with other commitments easier. This relevance and flexibility are key factors that can encourage students to opt for SWAYAM MOOCs"* (**scc4**).*"I believe that SWAYAM MOOCs offer access to high-quality education, particularly*

*benefiting students in remote areas or those unable to attend traditional classes and can reduce financial barriers to education"* (**scc5**).

*"SWAYAM offers a unique opportunity for students to learn from instructors and peers worldwide, gaining diverse perspectives. This global engagement enhances the relevancy of the courses and fosters a rich learning environment"* (**scc6**).

*"SWAYAM courses can empower students to take control of their learning, fostering independence and self-motivation. This aspect of self-directed learning is crucial for their overall academic and personal development"* (**scc7**).

*"I firmly believe that completing MOOCs can lead to certifications, which will significantly enhance my credentials. This underscores the importance of SWAYAM courses' relevance to my academic and career goals"* (**scc8**).

*"MOOCs can prepare students for higher education by providing foundational knowledge and skills, especially when up to 40% of SWAYAM courses are relevant to our curriculums and syllabi. This can enhance our learning experience and readiness for further academic pursuits"* **(scc9**).

*"MOOCs can contribute significantly to reducing educational disparities by providing equal access to education. As a SWAYAM course coordinator, I understand the importance of ensuring that the courses offered are relevant to Students needs and aligned with their curriculums, syllabi, and course contents. This relevance is key to encouraging learners to enroll and benefit from the courses available on the SWAYAM portal"* (**scc10**).

*"SWAYAM MOOCs promote a culture of lifelong learning, encouraging continuous personal and professional development. Therefore, ensuring that up to 40% of the courses available on the SWAYAM portal are relevant and engaging is crucial for motivating learners to opt for these courses"* (**scc11**).

A few participants shared about the challenges that students may confront concerning MOOCs. They stated, *"I believe achieving this goal may be challenging given the current scenario. Issues such as delayed exams and the need for adequate support staff could hinder our progress. However, with proper planning and resources, we can*

*overcome these obstacles and make SWAYAM MOOCs more enticing for students"* (**scc12**).

*"Ensuring that the course content remains relevant to Students academic needs and interests is crucial for sustaining their engagement and motivation throughout the course"* (**scc13**).

*"Many students lack awareness about SWAYAM and its offerings. Therefore, program coordinators should focus on increasing awareness and ensuring that the courses are relevant and beneficial for learners"* (**scc14**).

**Table 4.1.22 Percentage of SWAYAM course coordinator response regarding awareness programs organised for students with regard to MOOCs**

| Item | Yes | No |
|------|-----|-----|
| Organised awareness programs for students with regard to MOOCs | 90% | 10% |

**Figure 4.1.22 Percentage of SWAYAM course coordinator response regarding awareness programs organised for students with regard to MOOCs**
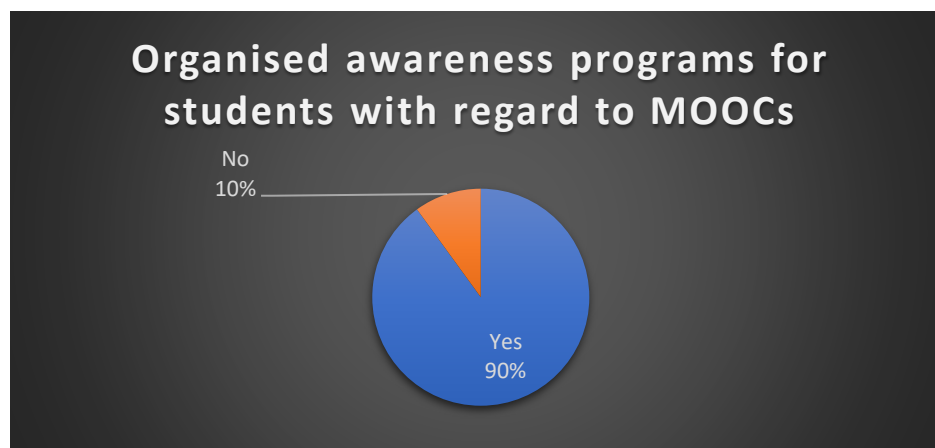


**Interpretation**

Table 4.1.21 shows that most of the (90%) SWAYAM course coordinators make awareness programs for students regarding MOOCs, as it is essential to focus on the benefits and opportunities that MOOCs offer. These programs can include

informational sessions, workshops, webinars, and orientation programs aimed at educating students about the various MOOCs platforms.

Organized awareness programs for students, led by course coordinators, are crucial for promoting the benefits of MOOCs. These kinds of programs help students understand the value of MOOCs in enhancing their knowledge and skills. Furthermore, they provide insights into how MOOCs can complement traditional education, making learning more flexible and accessible. The following are the awareness programmes conducted by course coordinators-

**Table 4.1.23 Different kinds of awareness programs organised by the SWAYAM course coordinator for students**

| Sl No | Awareness programme |
|-------|---------------------|
| i | awareness programs were conducted for learners to guide them on the process of enrolling in MOOC courses, including admission procedures and course navigation. |
| ii | Informal interactions are held in classrooms to discuss MOOCs with students, providing them with information and insights about the opportunities and benefits associated with these online courses. |
| iii | Regular awareness programs are arranged specifically for students from the Department of Business Administration who are actively engaged in MOOC courses, with a focus on content primarily sourced from NPTEL. |
| iv | Organized awareness initiatives are implemented to educate learners on the procedures for enrolling in MOOC courses, as well as navigating through the course content and requirements. |

**Table 4.1.24 Percentage of SWAYAM course coordinator training conducted to other MOOC instructors in regard to designing or teaching SWAYAM MOOCs**

| Item | Yes | No |
|---|---|---|
| Training conducted to other MOOC instructors in regard to designing or teaching SWAYAM MOOCs | 57.14% | 42.86% |

**Figure 4.1.23 Percentage of SWAYAM course coordinator training conducted to other MOOC instructors in regard to designing or teaching SWAYAM MOOCs**
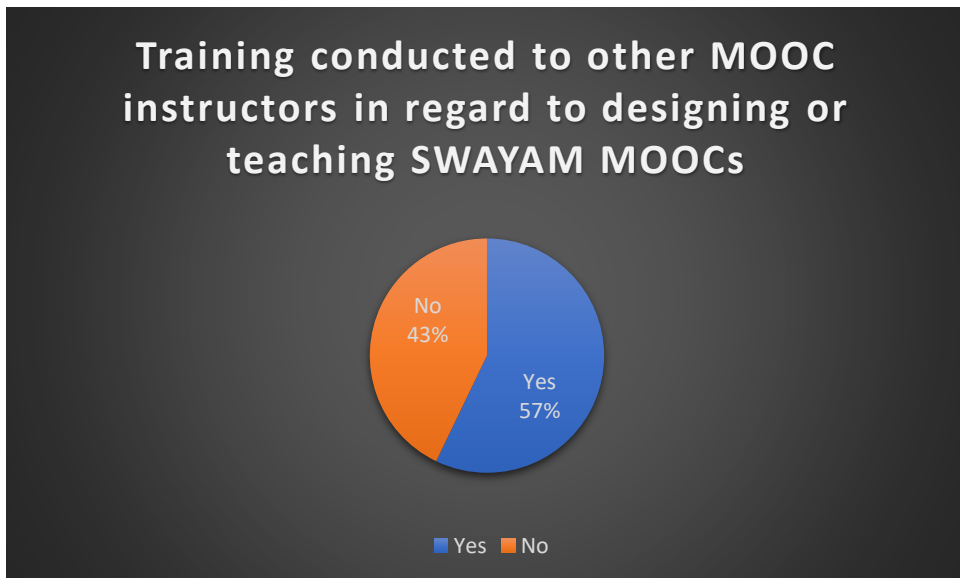


Table 4.1.23 shows SWAYAM course coordinator training conducted for other MOOCs instructors regarding designing or teaching SWAYAM MOOCs. The result indicated that 57.14% of the SWAYAM course coordinators trained other MOOC instructors regarding designing or teaching SWAYAM MOOCs, while 42.86% of the SWAYAM course coordinators did not organize such courses. The following are the training programs for other MOOC instructors regarding designing or teaching SWAYAM MOOCs.

**Table 4.1.25 Number of training programme organized by SWAYAM course coordinator**

| Sl No | Training conducted | Number of coordinators conducted |
|-------|--------------------|----------------------------------|
| i | Under the CEMCA-funded project, faculty members of Higher Education Institutions (HEIs) were trained in designing SWAYAM MOOCs. | 2 |
| ii | Guidance was provided to faculty members in developing SWAYAM courses. | 2 |
| iii | Teacher awareness and discussions were held with interested teachers regarding MOOCs creation and course delivery. | 1 |
| iv | Training and guidance were given to faculty members for MOOCs development on first-hand experience. | 3 |

**Table 4.1.26 Percentage of SWAYAM course coordinators suggestions provided to other MOOC instructors in regard to designing SWAYAM MOOCs**

| Item | Yes | No |
|------|-----|-----|
| Suggestions provided to other MOOC instructors in regard to designing SWAYAM MOOCs | 78.57% | 21.43% |

**Figure 4.1.24 Percentage of SWAYAM course coordinators suggestions provided to other MOOC instructors in regard to designing SWAYAM MOOCs**
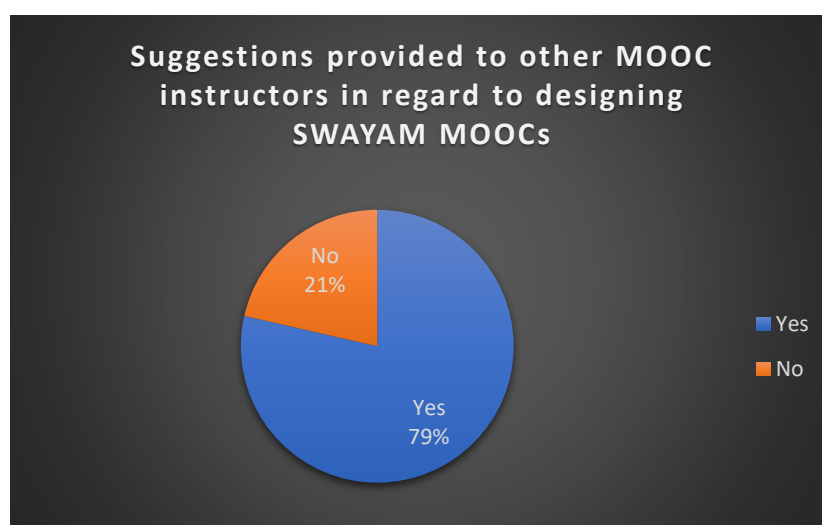
**Interpretation**

Table 4.1.25 shows that the SWAYAM course coordinator provided suggestions to other MOOC instructors regarding designing SWAYAM MOOCs. The result indicated that 78.57% of the SWAYAM course coordinators provided suggestions to other MOOC instructors in regard to designing SWAYAM MOOCs. In comparison, 21.43% of the SWAYAM course coordinators did not provide any recommendations.

Instructors are advised to focus on interactive elements and engaging content to enhance student engagement and learning outcomes in SWAYAM MOOCs. They are encouraged to align course objectives with student needs and interests to maximize the impact of the courses. A few aspects of suggestions are given below-

(i)    **Discussion of Challenges**: Instructors are given suggestions on how to engage in open discussions to identify and address challenges faced by faculty and students. This approach fosters a collaborative problem-solving environment, enabling the implementation of effective solutions to enhance the overall learning experience **(scc1, scc4, scc9. scc13)**.

(ii)   **Departmental Meetings for Collaboration:** Faculty members are advised to utilize departmental meetings as a platform for collaboration. These meetings provide an opportunity for instructors to share experiences, exchange ideas, and address common challenges. Through these interactions, faculty can collectively work towards improving the quality of SWAYAM MOOCs **(scc2, scc3, scc7, scc12).**

(iii)  **Guidance in Course Development**- Instructors are guided in developing SWAYAM courses and receiving support in designing engaging and effective course content. This guidance ensures that courses are well-structured, aligned with learning objectives, and cater to the needs of diverse learners, ultimately enhancing the overall quality of SWAYAM. **(scc5, scc6, scc10)**

(iv)   **Suggestions for Class Hours and Resources**- The course coordinator provides valuable suggestions to other MOOC instructors regarding the optimal number of class hours and the creation of resources. These suggestions are based on best practices and aim to optimize the learning

experience for students, ensuring that courses are engaging, informative, and well-paced **(scc8, scc11, scc14).**

**Table 4.1.27 SWAYAM course coordinator participation in orientation programme related to SWAYAM MOOCs**

| Item | Yes | No |
|---|---|---|
| Participation in orientation programme related to SWAYAM MOOCs | 100% | 00% |

Table 4.1.26 shows the participation of the SWAYAM course coordinator in different orientation programmes related to SWAYAM MOOCs. The result indicated that all the SWAYAM course coordinators actively participated in different orientation programs related to SWAYAM MOOCs. The following orientation programme was participated by the different SWAYAM course coordinators.

**Table 4.1.28 No. of orientation programmes were participated in by the different SWAYAM course coordinators.**

| Sl No | Orientation programme | No of Course Instructor |
|---|---|---|
| i | Participated in workshops conducted by the University on SWAYAM MOOCs. | 4 |
| ii | Participated in webinars conducted by IIT Madras | 6 |
| iii | Three workshops at NEW DELHI, IIM Bangalore, and NITTK Chennai. | 1 |
| iv | The EMRC of Dibrughar University organized an orientation program in 2018. | 3 |

**Promotion of SWAYAM MOOCS**

**Table 4.1.29 Incentives received by the SWAYAM Course Coordinator from their institution for developing the SWAYAM Course**

| Item | Yes | No |
|---|---|---|
| Received incentives from their institution for developing the SWAYAM Course | 35.71% | 64.28% |

**Figure 4.1.25 Incentives received by the SWAYAM Course Coordinator from their institution for developing the SWAYAM Course**
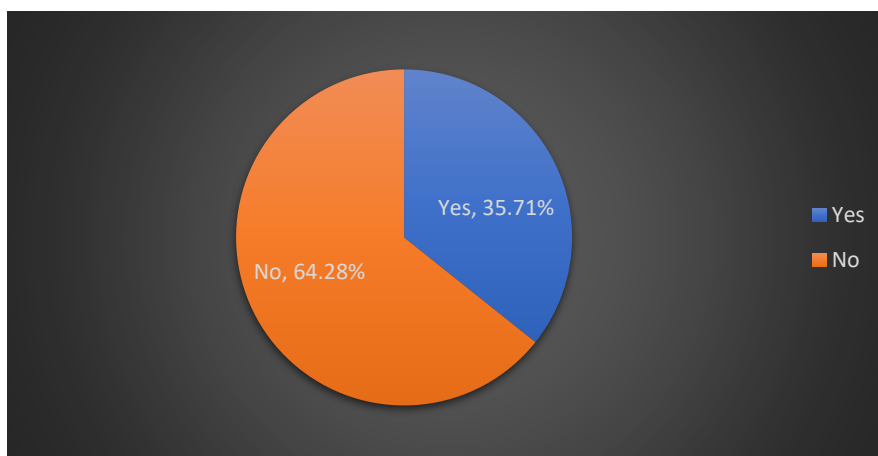


The findings revealed that 35.71% of the SWAYAM course coordinators receive incentives for producing SWAYAM courses. In comparison, the remaining 64.28% do not. The following incentives are provided by their institution-

**Table 4.1.29 List of incentives provided by their institution for developing the SWAYAM Course**

| Sl No | Incentives provided | No of Receiver |
|---|---|---|
| i. | Provide facilities to develop video content. | 2 |
| ii. | Honorarium facilitated as per university regulations. | 2 |
| iii. | The institution provided some funds for course development, and the vice-chancellor gave an appreciation letter. | 1 |

**Table 4.1.31 Percentage of SWAYAM Course Coordinators received the remunerations or motivation for implementing SWAYAM MOOCs.**

| Item | Percentage |
|------|------------|
| Passionate about the content | 78.57% |
| Learn new pedagogy | 71.43% |
| Financial incentives | 71% |
| Expand my professional network | 50.00% |
| Curiosity | 71.43% |
| Commitment to open education | 78.57% |
| Career development | 64.28% |

**Figure 4.1.26  Percentage of SWAYAM Course Coordinators who received the remunerations or motivation for implementing SWAYAM MOOCs.**
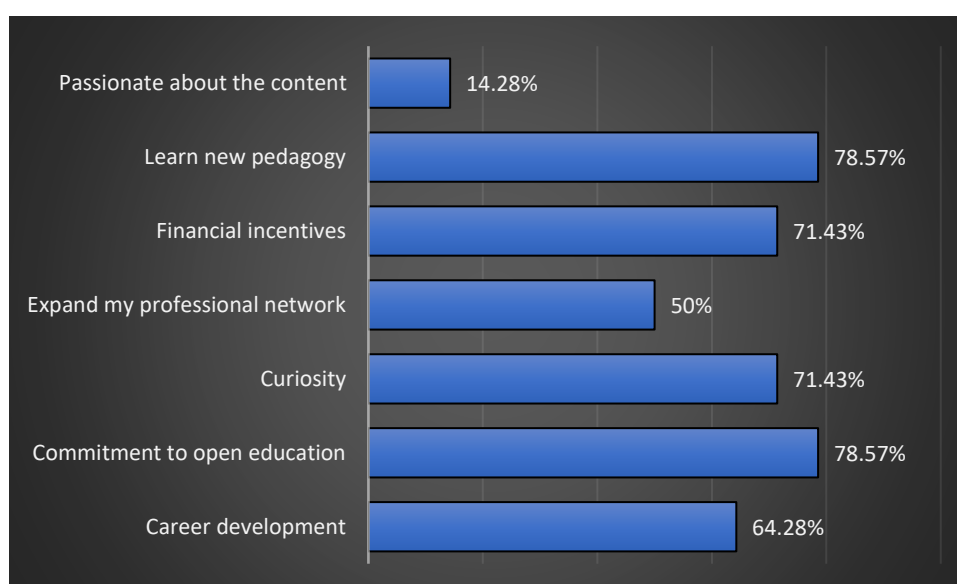


The outline of Figure 4.1.26 displays the responses of the SWAYAM course coordinator on the factors that motivate them to teach SWAYAM MOOCs. The data revealed that 64.28% of the SWAYAM course coordinators are motivated by career development; 78.57% of the respondents are motivated by commitment to open education; 71.43% of the respondents are motivated by curiosity; 50% of the respondents are motivated by expand their professional network; 71.43% of the respondents are motivated by financial incentives; 78.57% of the respondents are motivated by curiosity about learning new technology and  14.28% of the respondents are motivated by passionate about the content for teaching a SWAYAM MOOCs.

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**Table 4.1.32 SWAYAM course coordinators' response regarding different ways student progress/participation is monitored or tracked.**

| Item | Percentage |
|---|---|
| Moderator feedback | 64.28% |
| Unit-based progress | 50% |
| Personal tracking from the instructor | 64.28% |
| Personal tracking from the course instructor | 50% |
| Weekly or daily reports are offered | 14.28% |
| Interaction through course portal | 14.28% |

**Figure 4.1.27 SWAYAM course coordinators' responses regarding different ways student progress/participation is monitored or tracked.**
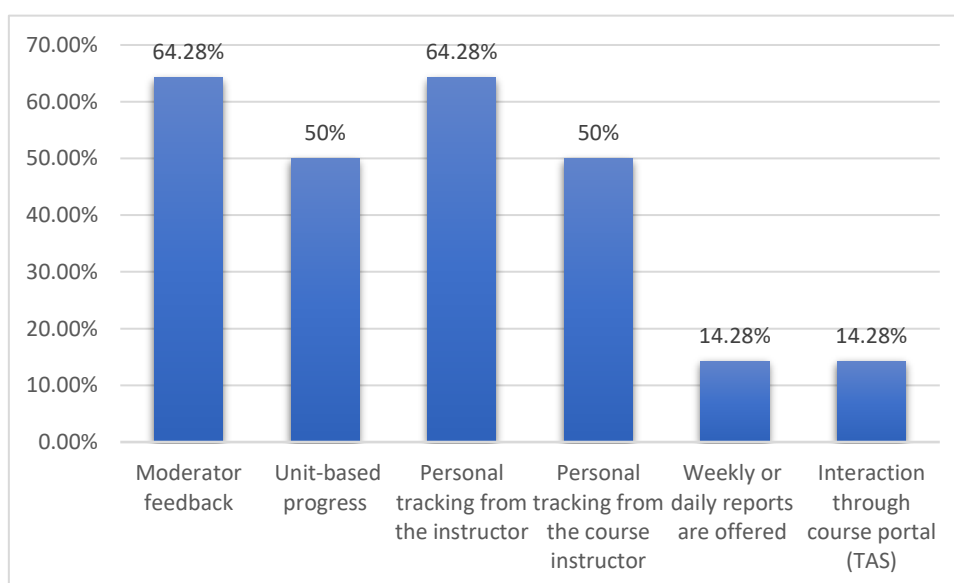


**Interpretation:**

The SWAYAM course coordinators use different ways to monitor the progress of students who have registered on the SWAYAM platform from their university. The above table shows that 64.28% of SWAYAM course Coordinator used moderator feedback, 50% of SWAYAM course Coordinator used unit-based progress, 64.28% of universities used personal tracking from the instructor, 50% of SWAYAM course Coordinator used personal tracking from the course instructor; 14.28% of SWAYAM

course Coordinator used Weekly or daily reports offered; 14.28% of SWAYAM course coordinators used interaction through the course portal who have registered on the SWAYAM platform.

**Table 4.1.33 Different kinds of professional development/support did SWAYAM Course Coordinators get from their institution.**

| Item | Percentage |
|------|------------|
| Assigned advisory role | 21.43% |
| Provided MOOC-related books, reports | 57.14% |
| Organise training programs in online pedagogy | 28.57% |
| Provided training in technology tools for making video lectures | 21.43% |
| Provided an informal demonstration of the features, activities, or tools of your MOOCs to colleagues or others | 35.71% |
| Provide a link to your MOOCs as an example to others | 28.57% |
| Through CET(IIT) | 14.28% |

**Figure 4.1.28 Different kinds of professional development/support did SWAYAM Course Coordinators get from their institution.**
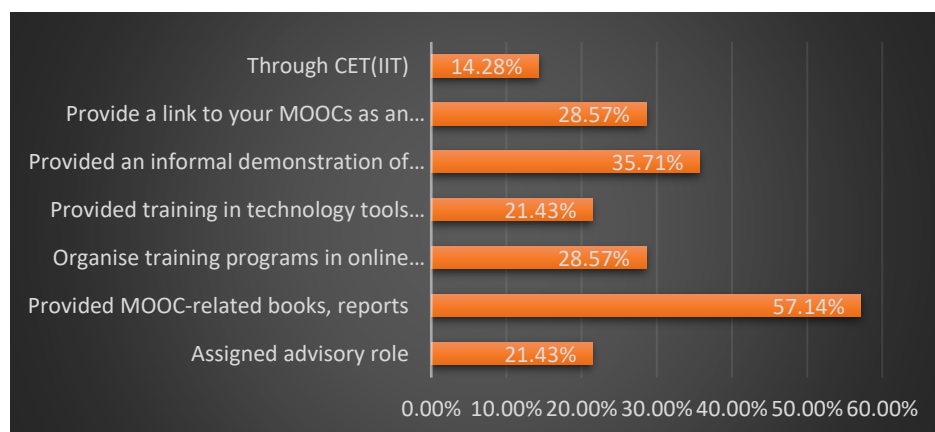


Figure 4.1.28 revealed what kind of professional development/support the SWAYAM course coordinator received from their institution. It has been found that the majority (57.14%) of the SWAYAM course Coordinators received MOOC-related books, reports; 21.43% of the respondents received Assigned advisory role from their institution; 28.57% of the respondents received training program in online pedagogy provided by their institution; 21.43% of the SWAYAM course Coordinators received training in technology tools for making video lectures; 35.71% of the SWAYAM course

Coordinators received informal demonstration of the features, activities, or tools of your MOOCs to colleagues or others; 28.57% of the SWAYAM course Coordinators Provide a link to their MOOCs as an examples to others and 14.28% of the SWAYAM course Coordinators received support through CET support system provided by the different IIT.

**Table 4.1.34 Percentage of SWAYAM course coordinator who promoted SWAYAM MOOCs in their institution**

| Sl. NO | Item | Yes | No |
|--------|------|-----|-----|
| i. | Promoted SWAYAM MOOCs in the institution | 100% | 00% |

**Interpretation**

The results revealed that all 14 SWAYAM Course coordinator Promote SWAYAM MOOCs in their institution, which strongly indicates their commitment to the program. They are actively engaged in integrating these online courses into their curriculum, which can enhance the learning opportunities for students.

**Figure 4.1.29  Various ways of promotion for implementation of SWAYAM MOOCs in higher education institutions by the SWAYAM Course coordinator (Informal Promotions)**
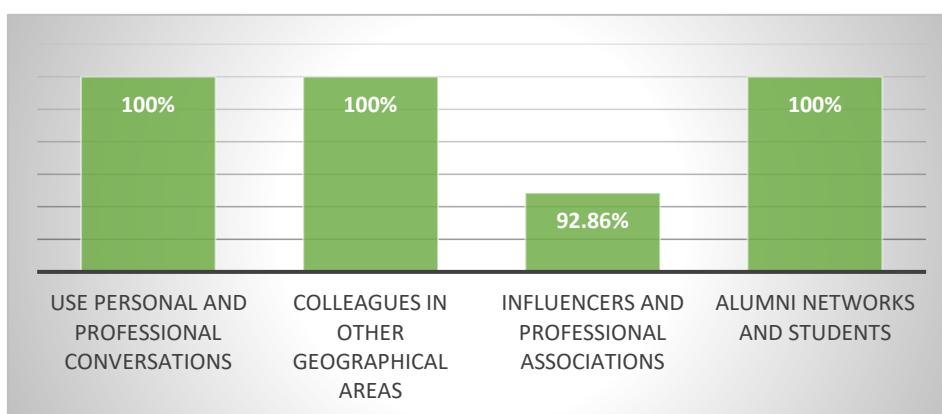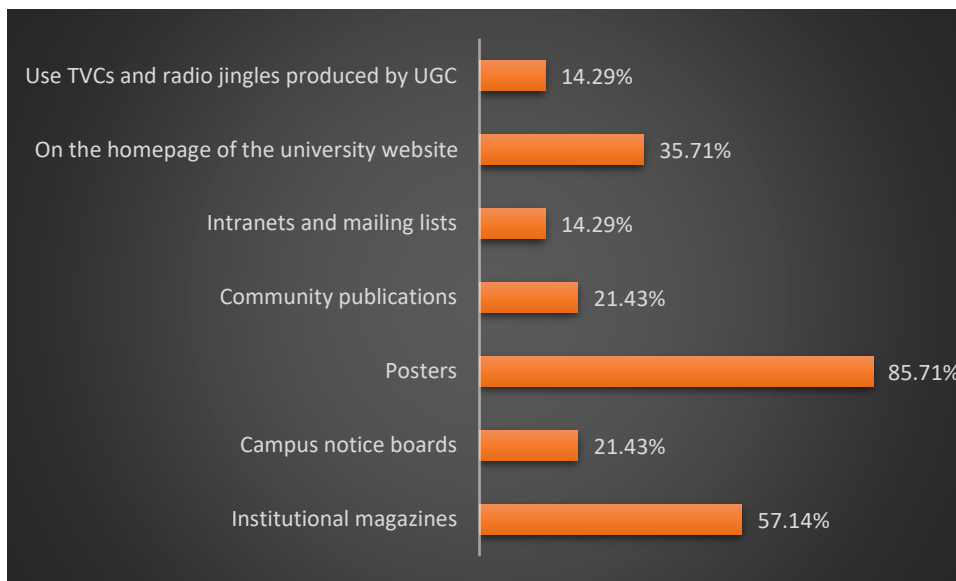


**Interpretation**

Figure 4.1.29 revealed how SWAYAM course coordinators promote SWAYAM MOOCs in higher education institutions in an informal way. It has been found that all

the SWAYAM course coordinators (100%) use personal and professional conversations, Colleagues in other geographical areas, Alumni networks, and students; 92.86% of the SWAYAM course coordinators use Influencers and professional associations for promoting SWAYAM MOOCs in higher education institution.

**Figure 4.1.30 SWAYAM Coordinator response regarding various ways of the aspect used for Informal Promotions (by Institution)**



**Interpretation**

Figure 4.1.30 revealed how SWAYAM course coordinators promote SWAYAM MOOCs in higher education institutions in a formal way. It has been found that the majority (85.71%) of the SWAYAM Coordinators use Posters; 57.14% of the respondents use Institutional magazines; 21.43% of the respondents use Campus notice boards Community publications;14.29% of the SWAYAM course Coordinators use Intranets and mailing lists; 35.71% of the SWAYAM course Coordinators use on the homepage of universities website and 14.29% of the SWAYAM Coordinators use Use TVCs and radio jingles produced by UGC for promoting SWAYAM MOOCs in higher education institution.

**Figure 4.1.31 SWAYAM Coordinator response regarding various ways of the aspect Used for social media (by faculty & universities/ institutions/students)**
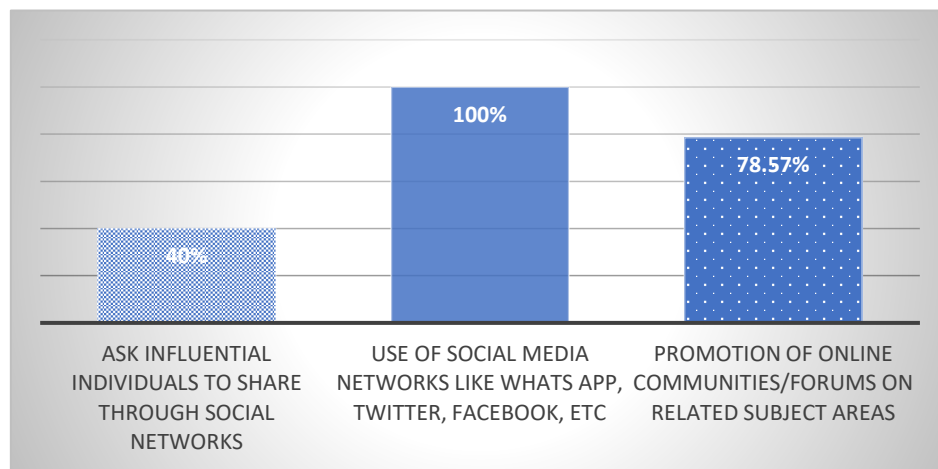


Figure 4.1.31 revealed how SWAYAM course coordinators promote SWAYAM MOOCs in higher education institutions through social media. It has been found that all the SWAYAM Coordinators (100%) use Social Media networks like Whats App, Twitter, and Facebook; 40% of the respondents use Ask influential individuals to share through social networks, and 78.57% of the respondents use Promotion online communities/forums on related subject areas for promoting SWAYAM MOOCs in higher education institution.

**Figure 4.1.32: SWAYAM course coordinators response regarding different ways in which instructor-learner Interaction is encouraged in their MOOCs.**
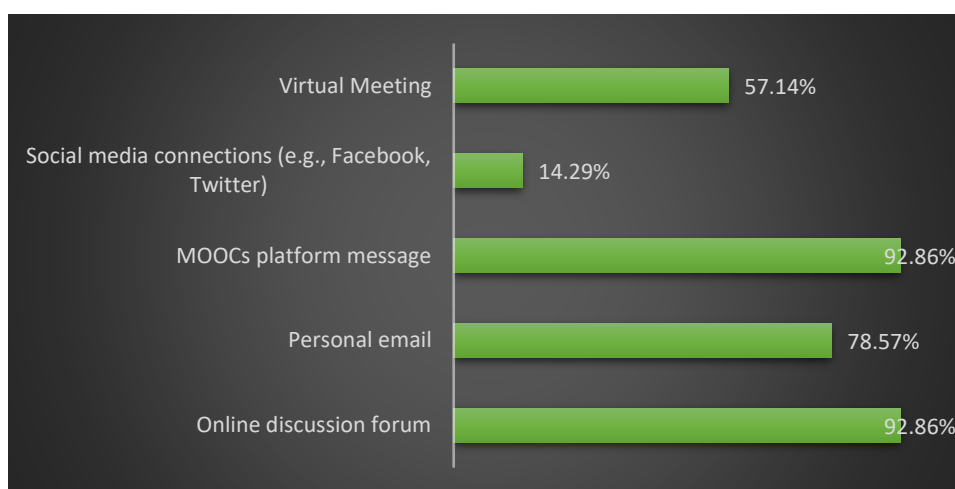


Figure 4.1.32 depicts how instructor-learner interaction is encouraged in their MOOC. It has been found that 92.86% of the SWAYAM course coordinators interact through

online discussion forums; 92.86% of the respondents interact through MOOCs platform messages; 78.57% of the respondents interact through personal mail; 57.14% of the SWAYAM course coordinators interaction through Virtual Meeting and 14.29% of the SWAYAM course Coordinators interaction through Social media connections (e.g., Facebook, Twitter) to encourage in their MOOCs.

## 4.2 Analysis of the Objective No. 2

> **To study the attitude of students towards SWAYAM MOOCs implementation in the higher education institutions of Assam.**

### 4.2.1 Level of the Attitude of students towards SWAYAM MOOCs implementation in the higher education institution

To study the attitude of students towards SWAYAM MOOCs implementation in the higher education institutions of Assam. Significant data has been collected through a self-developed attitude scale. For analysis purposes, the collected data has been categorised under the following dimension-

1. Attitude towards Relevance of SWAYAM MOOC 2. Attitude towards learning strategies of SWAYAM MOOCs 3. Attitude towards Relevance of SWAYAM MOOC and 4. Attitude towards Assessment & Feedback of SWAYAM MOOCs. To achieve objective no 1, the researcher adopted another strategy to analyse the data about the frequency of Students attitudes towards SWAYAM MOOCs implementation in the higher education institutions of Assam. The researcher analysed the data and presented it in the following table and graph:

**Table 4.2.1 Level of the attitude of students towards SWAYAM MOOCs implementation in the higher education institution**

| Sl No | Level of attitude | Frequency | Percentage |
|-------|-------------------|-----------|------------|
| 1 | Extremely Favourable Attitude | 00 | 00% |
| 2 | Highly Favourable Attitude | 5 | 1.41% |
| 3 | Above Moderately Favourable Attitude | 16 | 3.77% |

| 4 | Moderate Attitude | 57 | 13.44% |
|---|---|---|---|
| 5 | Below Moderately Unfavourable Attitude | 91 | 21.46% |
| 6 | Highly Unfavourable Attitude | 77 | 18.16% |
| 7 | Extremely Unfavourable Attitude | 177 | 41.75% |
| Total | | 424 | 100% |

**Figure 4.2.1 Percentage of Level of student attitude towards SWAYAM course**
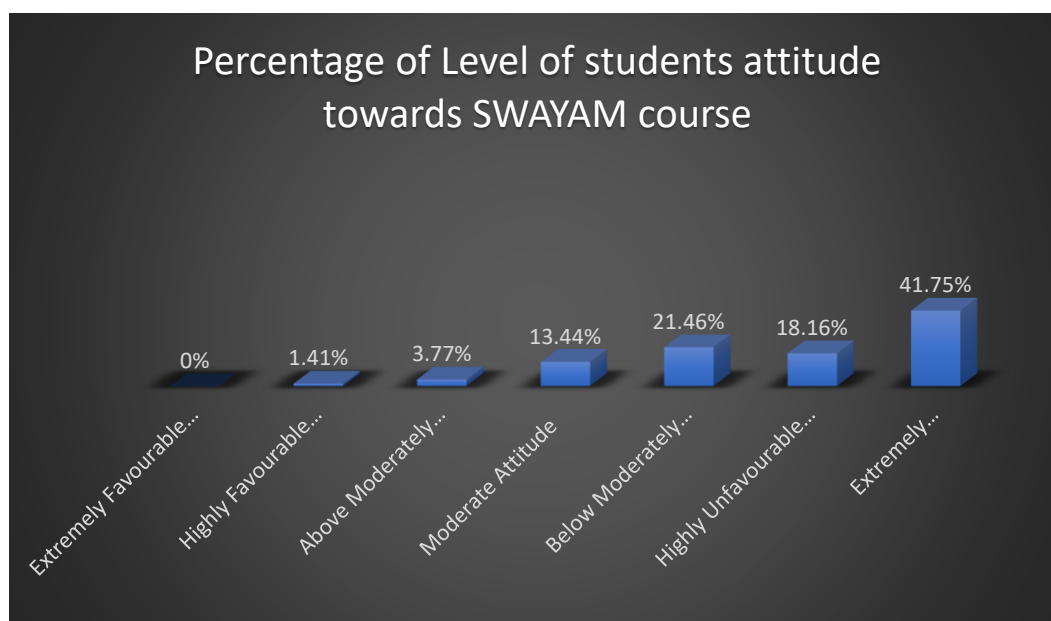


To evaluate the extent of the attitude of students towards SWAYAM MOOCs implementation in higher education institutions. The student's level scores were categorised into seven groups: Extremely Favourable Attitude, Highly Favourable Attitude, Above Moderately Favourable Attitude, Moderate Attitude, Below Moderately Unfavourable Attitude, Highly Unfavourable Attitude, Extremely Unfavourable Attitude.

On the basis of the above Table 4.2.1 and Figure 4.2.1, it was found that most of the students (41.75%) students have an extremely unfavorable attitude towards SWAYAM MOOCs, 18.16% of students have a highly unfavorable attitude towards SWAYAM MOOCs, 21.46% students have a below moderately unfavorable attitude towards SWAYAM MOOCs, 13.44% students have a moderate attitude towards SWAYAM MOOCs, 3.77% students have above moderately favorable attitude of towards

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SWAYAM MOOCs, 1.41% students have highly favorable attitude of towards SWAYAM MOOCs.

## 4.3 Hypothesis related to Objective No 3

> **Ho1. There is no significant difference between the attitudes of students towards the SWAYAM MOOCs with regard to gender.**

### 4.3.1 The attitude of the students according to their Gender

Whether the student's attitude scores show no significant differences according to their genders was examined with the Mann-Whitney U test. The findings are shown in 4.3.1

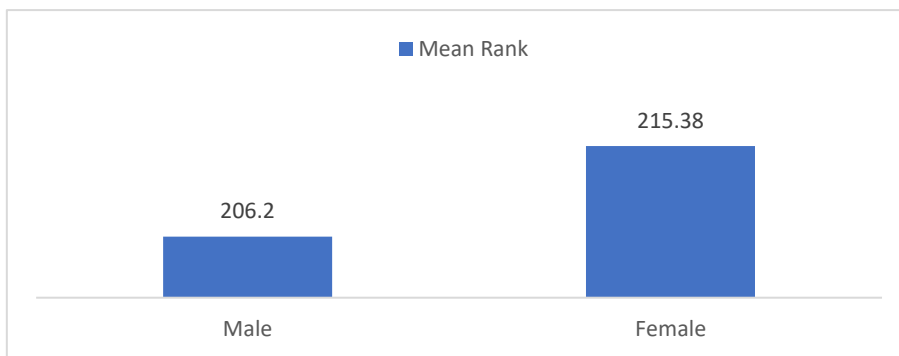**Figure 4.3.1 Mean score of students towards the SWAYAM MOOC**



**Table 4.3.1 Result of Mann-Whitney U test students towards the SWAYAM MOOCs**

|  | Gender | N | *Mean Rank* | *Sum of Ranks* | *U* | *p* |
|---|---|---|---|---|---|---|
| SCORE | Male | 133 | 206.20 | 27425.00 | 18514.000 | .474 |
|  | Female | 291 | 215.38 | 62675.00 |  |  |
|  | Total | 424 |  |  |  |  |

**Interpretation**

When analyzing Table 4.3.1, it is shown that there is no statistically significant difference in Students attitudes towards SWAYAM MOOCs based on their genders

(U=18514.000, P>.05). According to the mean rank, both female and male students showed similar attitudes toward SWAYAM MOOCs.

> **Ho2. There is no significant difference between the attitudes of students towards the SWAYAM MOOCs with regard to locality.**

### 4.3.2 The attitude of the students according to their locality

Table 4.3.2 shows the results of the Kruskal-Wallis test, which analyzes if there is a statistically significant difference in the Students attitudes towards SWAYAM MOOCs based on their location.

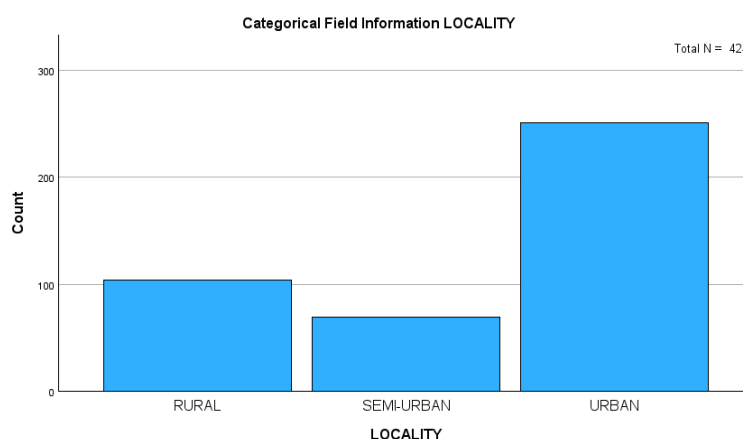**Figure 4.3.2 Mean score of students towards the SWAYAM MOOC**



**Table 4.3.2  Hypothesis Test Summary**

| Locality | N | Mean Rank | Sd | X2 | P | Sign |
|---|---|---|---|---|---|---|
| Rural | 104 | 211.51 | 16.41 | 1.968 | .374 | Not significant |
| Semi-urban | 69 | 194.54 | | | | |
| Rural | 251 | 217.85 | | | | |

The analysis results in Table 4.3.2 show that there is no significant difference in Students attitude scores towards SWAYAM MOOCs according to their locality

[$\chi2(2)=1.968$, p>.05]. After evaluating the mean rankings of the different categories, it is evident that urban, rural, and semi-urban students have a similar attitude toward SWAYAM MOOCs.

### 4.3.3 The attitude of the students according to their stream

**Ho3. There is no significant difference between the attitudes of students towards the SWAYAM MOOCs with regard to the stream.**

Table 4.3.3 shows the results of the Kruskal-Wallis test, which analyzes if there is a statistically significant difference in the student's attitude towards SWAYAM MOOCs based on their stream.

**Table 4.3.3 Hypothesis Test Summary**

| Locality | N | Mean Rank | Sd | X2 | P | Sign |
|---|---|---|---|---|---|---|
| **Humanities** | **242** | **203.93** | **16.41** | 4.483 | **.106** | **Not significant** |
| **Science** | **155** | **228.87** | | | | |
| **Commerce** | **27** | **195.31** | | | | |

The analysis results in Table 4.3.3 show that there is no significant difference in Students attitude scores towards SWAYAM MOOCs according to their stream[$\chi2(2)=220.24$, p>.05]. After evaluating the mean rankings of the different categories, it is evident that humanities, commerce and science students have a similar type of attitude toward stream.

### 4.4 Analysis of Objective No. 4:

**To find out the challenges faced by the stakeholders towards the implementation of SWAYAM MOOCs in the higher education institutions of Assam.**

The present section of the analysis shows the different challenges faced by the stakeholders in the implementation of SWAYAM MOOCs in Assam's higher education institutions.

With the help of a self-developed questionnaire, the required data was collected. For analysis purposes, the collected data has been categorized under the following dimensions.

**(i)     Course content**

**(ii)    Assessment and discussion forum**

**(iii)   learning strategy**

**(iv)    Implementation of SWAYAM MOOCs**

The data has been analyzed and organized into three categories, as provided below.

i.      **Challenges faced by the students**

ii.     **Challenges faced by the SWAYAM coordinator**

iii.    **Challenges faced by the SWAYAM course coordinator**

**4.4.1   Challenges faced by the students**

### Table 4.4.1 Challenges faced by the students related to course content

| Sl No. | Items | Yes | No | Can't Say |
|--------|-------|-----|-----|-----------|
| 1 | Lack of quality content is one of the problems in MOOCs. | 25.23% | 43.87% | 30.90% |
| 2 | Quality of audio that was used in the MOOCs course is good. | 72.88% | 15.09% | 12.03% |
| 3 | language barrier among the learner creates difficulty in the implementation of SWAYAM MOOCs. | 25.71% | 52.60% | 21.46% |
| 4 | Appropriate graphics are used in the MOOCs. | 58.25% | 20.29% | 21.46% |
| 5 | Syllabus for the SWAYAM MOOCs course is very vast. | 41.51% | 43.87% | 14.62% |

**Figure 4.4.1 Challenges faced by the students related to course content**
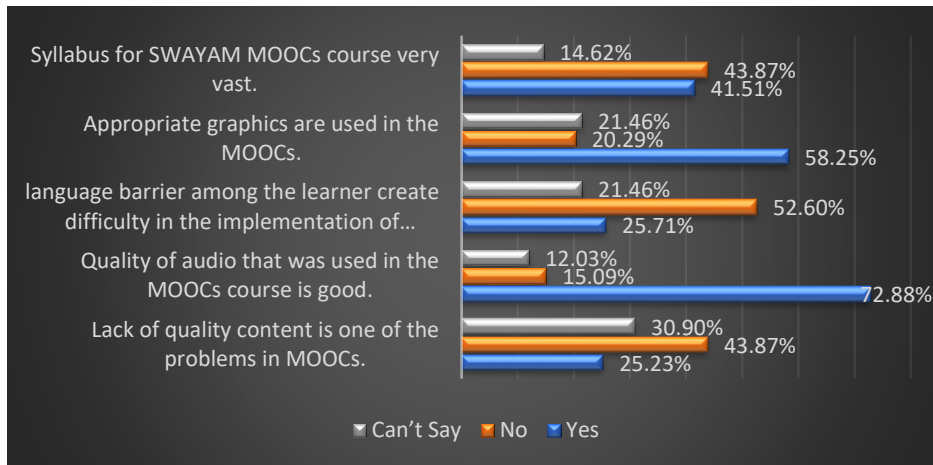


Table 4.4.1 and Figure 4.4.1 present the Students perspectives on challenges related to course content. It has been found that most of the students (43.87%) believed that the lack of quality content was not a problem in the implementation of SWAYAM MOOCs. Approximately one-third (30.90%) of the students cannot definitively state whether the lack of quality content is a problem in MOOCs. Furthermore, (25.23%) a quarter of the students believed that the deficiency of quality content certainly presents a problem in the context of MOOCs.

The findings indicated that most students (72.88%) believed that the quality of audio used in MOOCs was good. A smaller percentage of students (15.09%) did not consider the audio quality good, whereas 12.03% could not provide a definitive opinion.

The survey results indicated that most of the students (52.60%) perceived that language barriers among learners did not face challenges in implementing SWAYAM MOOCs. Approximately a quarter of participants (25.71%) perceived that language difficulties indeed gave rise to challenges, whereas around one-fifth (21.46%) of the students were unable to offer a definitive response.

Table 4.4.1 and Figure 4.4.1 expressed the Students views on Graphics used in the MOOCs. The findings indicated that most of the students (58.25%) considered that the graphics used in MOOCs were appropriate. Around one-fifth of students (20.29%) expressed dissatisfaction with the graphics quality, and 21.46% could not provide a conclusive viewpoint.

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The findings indicated that there was a mixed perception regarding the vastness of the syllabus for SWAYAM MOOCs, with 41.51% of respondents indicating that the syllabus was very vast. In comparison, 43.87% disagreed with this notion. Furthermore, 14.62% of the respondents were uncertain about the vastness of the curriculum.

**Table 4.4.2 Challenges faced by the students related to Assessment and discussion forum**

| Sl.No. | Items | Yes | No | Can't Say |
|--------|-------|-----|-----|-----------|
| 1 | Exam-oriented approach creates problems in the implementation of SWAYAM (MOOCs) | 25% | 53.07% | 21.93% |
| 2 | Lack of continuous active engagement in the discussion forum creates problems in the smooth functioning of SWAYAM MOOCs. | 41.27% | 35.14% | 23.58% |
| 3 | The absence of lab work is the major drawback in implementing SWAYAM (MOOCs). | 41.51% | 43.87% | 14.62% |
| 4 | Assignments creating hurdles in the implementation of MOOC through SWAYAM. | 17.92% | 64.86% | 17.22% |
| 5 | Problems with credit transfer at the end of the course. | 11.56% | 62.03% | 26.41% |

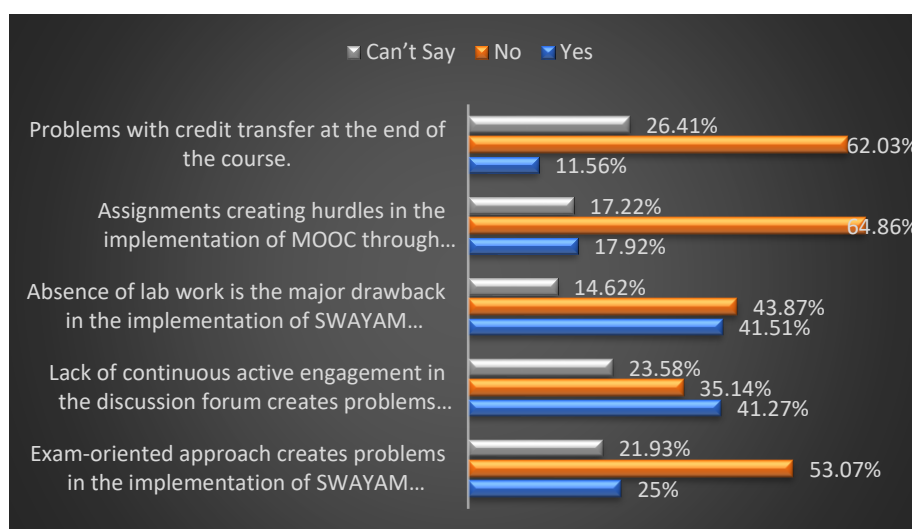**Figure 4.4.2 Challenges faced by the students related to Assessment and discussion forum**

Table 4.4.2 and Figure 4.4.2 depicted the Students perspectives on the challenges related to assessment and discussion forums. The findings indicated that most of the students (53.07%) agreed that adopting an exam-centric strategy did not create challenges in the implementation of SWAYAM. Approximately one-fourth (25%) of the respondents thought that an exam-oriented approach posed issues, whereas 21.93% were unable to offer a conclusive viewpoint.

According to the findings, 41.27% of students considered that the lack of continuous active engagement in the discussion forum created issues for the smooth functioning of SWAYAM MOOCs. Moreover, 35.14% of students did not think this lack of engagement caused problems, while 23.58% could not offer a decisive stance on the matter.

Based on the survey findings, there was a diverse range of opinions regarding the impact of the absence of lab work on the implementation of SWAYAM MOOCs. The results revealed that 41.51% of respondents viewed the lack of lab work as a significant disadvantage. In contrast, 43.87% of respondents disagreed with this viewpoint. Furthermore, 14.62% could not take a definitive position on the matter.

According to the findings, 64.86% of the respondents did not perceive that assignments created hurdles in implementing MOOCs through SWAYAM. 17.92% of respondents thought that assignments created hurdles, while 17.22% could not offer a conclusive stance.

Table 4.4.2 and Figure 4.4.2 expressed Students views on credit transfer problems at the end of the course. It was found that most of the students (62.03%) did not face problems with credit transfer at the end of the course. A smaller percentage of students (11.56%) faced problems with credit transfers, while 26.41% could not provide a definitive answer.

**Table 4.4.3 Challenges faced by the students related to Learning strategies.**

| Sl. No. | Items | Yes | No | Cannot Say |
|---|---|---|---|---|
| 1 | Lack of time creates an obstacle in the implementation of SWAYAM MOOCs. | 48.11% | 34.43% | 17.45% |
| 2 | Lack of individual instruction is one of the major drawbacks in the implementation of SWAYAM MOOCs. | 47.40% | 28.77% | 23.82% |
| 3 | Lack of creativity creates problems in the implementation of SWAYAM MOOCs. | 41.03% | 35.61% | 23.35% |
| 4 | Limited availability of resources to access courses creates barriers to the implementation of SWAYAM MOOCs. | 44.81% | 31.37% | 23.82% |
| 5 | Lack of trained teachers is one of the major drawbacks in the implementation of SWAYAM MOOCs. | 25.94% | 50.94% | 23.11% |

**Figure 4.4.3  Challenges faced by the students related to Learning strategies.**
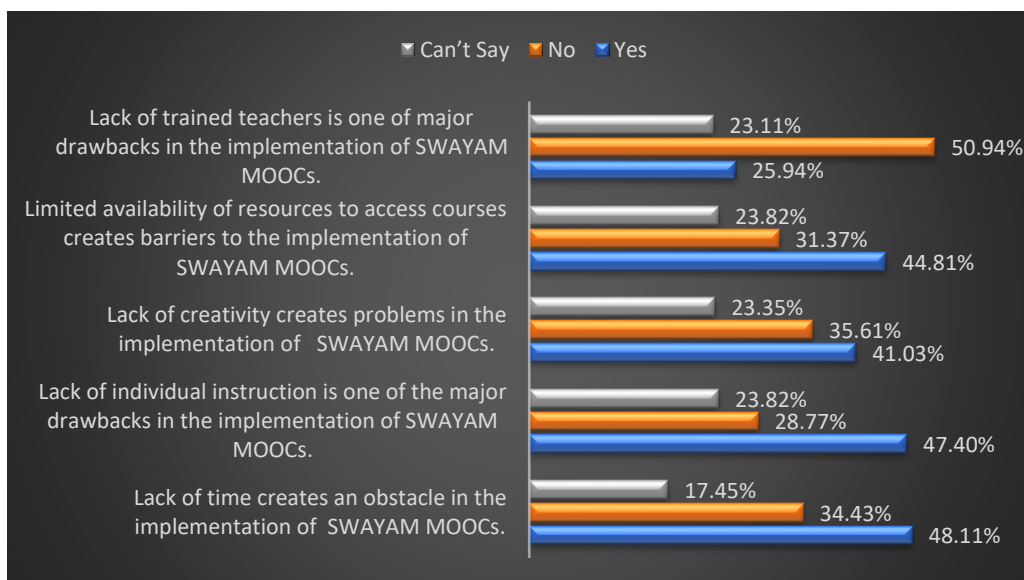


Table 4.4.3 and Figure 4.4.3 illustrate Students perspectives on the challenges they encountered with learning strategies. The findings indicated that the majority of the students (48.11%) believed that the lack of time created an obstacle in the implementation of SWAYAM MOOCs. 34.43% of the respondents did not think that

lack of time posed a substantial hindrance, whereas 17.45% of students could not offer a conclusive perspective.

According to the findings, 47.40% of respondents agreed that more individual instruction should have been implemented in SWAYAM MOOCs. A smaller percentage, 28.77%, did not see the lack of personal instruction as a significant drawback, while 23.82% of the respondents could not provide a definitive opinion.

The survey results showed that 41.03% of students considered that lacking creativity posed challenges in implementing SWAYAM MOOCs. Meanwhile, 35.61% of students disagreed and did not see lack of creativity as a problem. Moreover, 23.35% of students were unable to provide a definitive opinion.

The research showed that 44.81% of students thought that the limited availability of resources for accessing courses created barriers to implementing SWAYAM MOOCs. Meanwhile, 31.37% of students did not think that limited resources posed a significant barrier, and 23.82% could not provide a definitive opinion.

The data suggested that the majority of students (50.94%) did not consider the lack of trained teachers to be a significant obstacle in the implementation of SWAYAM MOOCs. On the other hand, 25.94% of students saw the absence of qualified teachers as a drawback, while 23.11% of students were undecided on this matter.

**Table 4.4.4  Challenges faced by the students related to the relevance of SWAYAM MOOCs**

| Sl. No. | Items | Yes | No | Cannot Say |
|---|---|---|---|---|
| 1 | Due to a lack of Students interest, they are not participating in the SWAYAM MOOCs. | 54.01% | 16.98% | 29.01% |
| 2 | Cost of examination fees creates trouble in the implementation of SWAYAM MOOCs. | 41.27% | 38.21% | 20.52% |
| 3 | Insufficient prior knowledge about the topic creates obstacles in the implementation of SWAYAM MOOCs. | 46.46% | 33.96% | 19.57% |

| 4 | Lack of motivation creates difficulty in the implementation of SWAYAM MOOCs. | 54.95% | 22.88% | 22.17% |
|---|---|---|---|---|
| 5 | Technical issues create hurdles in the implementation of SWAYAM MOOCs. | 54.48% | 29.72% | 15.80% |
| 6 | Over-the-course expectations create trouble for the implementation of SWAYAM. | 29.95% | 37.74% | 32.31 % |
| 7 | problems from the educational administration in implementation of SWAYAM MOOCs. | 16.27% | 69.10% | 14.62% |

**Figure 4.4.4 Challenges faced by the students related to the relevance of SWAYAM MOOCs**
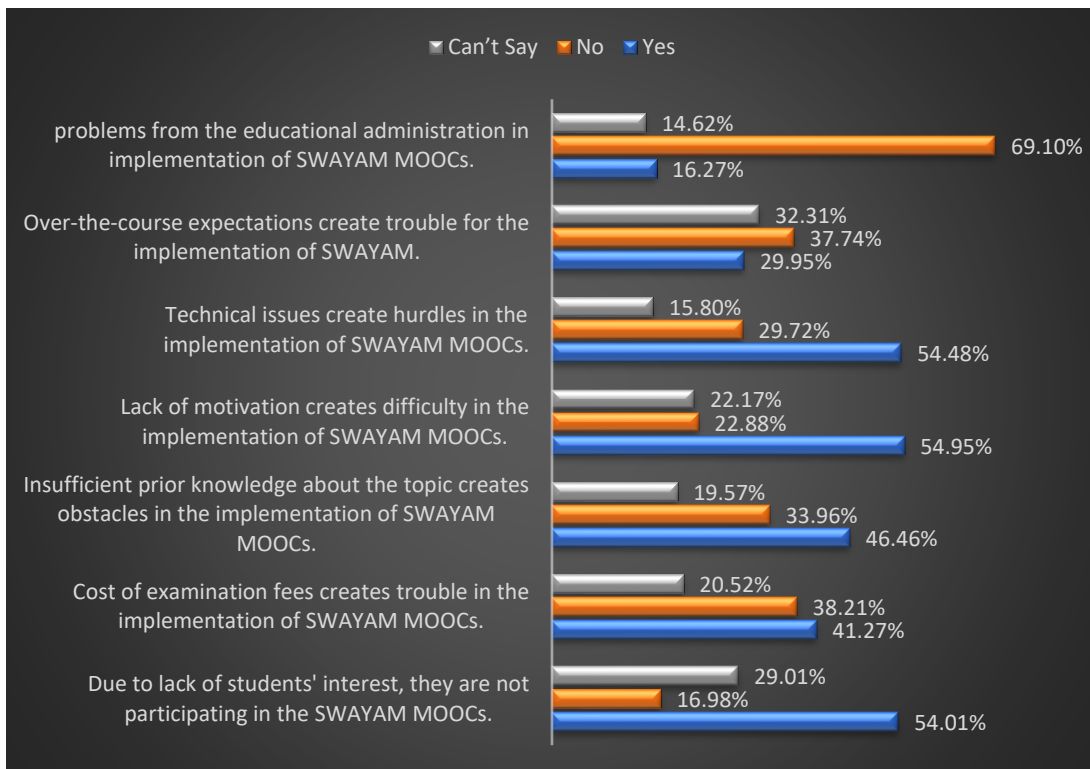


Table 4.4.4 and Figure 4.4.4 depicted Students perspectives on the challenges related to the relevance of SWAYAM MOOCs. The findings indicated that most students (54.01%) felt that due to a lack of student interest, they were not participating in SWAYAM MOOCs. 16.98% of students did not think that lack of interest was a significant factor, while 29.01% of students could not provide a definitive opinion.

According to the findings, 41.27% of students believed that the examination fees posed a challenge to the successful implementation of SWAYAM MOOCs, while 38.21% of students did not consider examination fees to be a major issue. Moreover, 20.52% of respondents either expressed uncertainty or were unable to provide a definitive opinion on the matter.

The findings clearly indicated that a significant portion of students (46.46%) considered that insufficient prior knowledge about the topic presented a major obstacle in the implementation of SWAYAM MOOCs. In contrast, 33.96% of students were confident that lack of previous knowledge was not a significant barrier, while 19.57% of respondents could not provide a definitive opinion.

According to the findings, most students (54.95%) agreed that a lack of motivation posed a challenge in implementing SWAYAM MOOCs. 22.88% of students did not consider the lack of motivation to be a major obstacle, while 22.17% of students were unable to provide a conclusive opinion.

The findings showed that 54.48% of students perceived technical issues were a major obstacle in implementing SWAYAM MOOCs. Meanwhile, 29.72% of students did not consider technical issues a significant hurdle, and 15.80% could not provide a definitive opinion.

The results showed that 37.74% of students did not think that over-the-course expectations posed challenges to the implementation of SWAYAM MOOCs. On the other hand, 29.95% of students felt that over-the-course expectations created trouble, while 32.31% of students could not provide a definitive opinion.

The findings also indicated that the majority of respondents (69.10%) were satisfied with how the educational administration was implementing SWAYAM MOOCs. However, 16.27% of students faced problems, while 14.62% could not provide a definitive opinion.

**Challenges faced by the SWAYAM coordinator**

**Table 4.4.5 Challenges faced by the SWAYAM Coordinator related to course content.**

| Sl No. | Items | Yes | No | Cannot Say |
|---|---|---|---|---|
| 1 | Lack of quality content is one of the problems in MOOC courses. | 70% | 30% | 00% |
| 2 | Quality of audio that was used in the MOOCs course is good. | 40% | 60% | 00% |
| 3 | language barrier among the learners creates difficulty in the implementation of SWAYAM MOOCs. | 60% | 40% | 00% |
| 4 | Appropriate graphics are used in the MOOCs. | 50% | 50% | 00% |
| 5 | Syllabus for the SWAYAM MOOCs course is very vast. | 30% | 60% | 10% |

**Figure 4.4.5 Challenges faced by the SWAYAM Coordinator related to course content.**
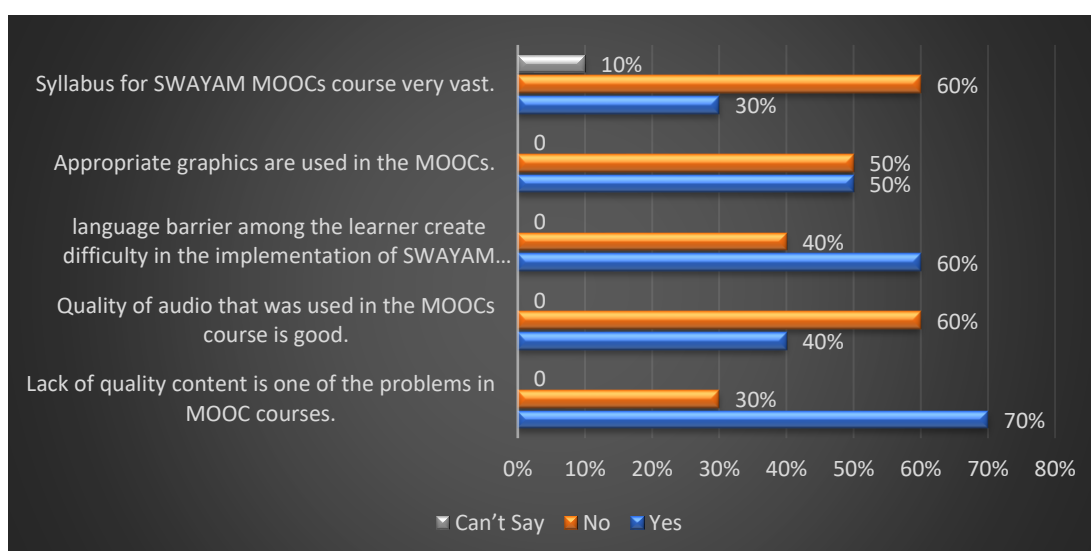


Table 4.4.5 and Figure 4.4.5 presented the SWAYAM Coordinator's perspectives on challenges related to course content. It was exhibited that most of the SWAYAM

coordinators (70%) believed that the lack of quality content was a problem in MOOCs courses. Approximately one-third (30.00%) of the SWAYAM coordinators believed that lack of quality content was not a problem in SWAYAM MOOCs.

The findings indicated that most of the SWAYAM coordinators (60%) considered that the quality of audio used in MOOCs was not good, whereas 40% of SWAYAM coordinators considered that the quality of audio used in MOOCs was good.

The survey results indicated that most of the SWAYAM coordinators(60%) thought that the language barrier among learners created difficulty in the implementation of SWAYAM MOOCs. In comparison, 40% did not consider it a significant difficulty.

Table 4.4.5 and Figure 4.4.5 expressed the views of the SWAYAM Coordinators on the graphics that were used in the MOOCs. The findings indicated that the opinions of the SWAYAM coordinators were equally divided, with 50% believing that the graphics used in MOOCs were appropriate and 50% believing they were not.

The findings showed that 30% of SWAYAM coordinators found the syllabus for SWAYAM MOOCs vast, and 60% thought it was not.

**Table 4.4.6 Challenges Faced by the SWAYAM Coordinator related to Assessment and discussion forum**

| Sl. No. | Items | Yes | No | Can't Say |
|---|---|---|---|---|
| 1 | Exam-oriented approach creates problems in the implementation of SWAYAM (MOOCs) | 40% | 60% | 00% |
| 2 | Lack of continuous active engagement in the discussion forum creates problems smooth functioning of SWAYAM MOOCs. | 70% | 30% | 00% |
| 3 | Absence of lab work is the major drawback in implementing SWAYAM (MOOCs). | 50% | 50% | 00% |
| 4 | Assignments creating hurdles in the implementation of MOOC through SWAYAM. | 40% | 60% | 00% |
| 5 | Problems with credit transfer at the end of the course. | 30% | 60% | 10% |

**Figure 4.4.6 Challenges Faced by the SWAYAM Coordinator related to
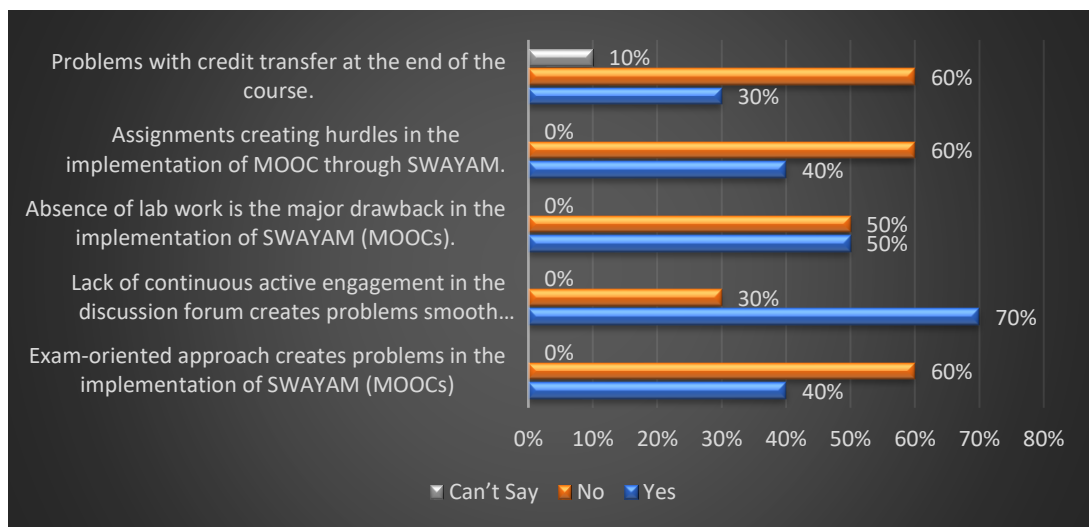Assessment and discussion forum**



Table 4.4.6 and Figure 4.4.6 depicted the SWAYAM Coordinator's perspectives on the Challenges related to assessment and discussion forums. The findings indicated that 40% of SWAYAM coordinators believed that an exam-oriented approach created problems in implementing SWAYAM (MOOCs), while 60% did not consider it a significant issue.

According to the findings, most of the SWAYAM coordinators (70%) considered that the lack of continuous active engagement in the discussion forum created problems in the smooth functioning of SWAYAM MOOCs. In comparison, 30% did not consider it a significant issue.

From the survey results, it was evident that SWAYAM Coordinators were equally divided. It was found that 50% of SWAYAM Coordinators perceived that the absence of lab work was a major drawback in the implementation of SWAYAM (MOOCs), and 50% believed it was not.

Table 4.4.6 and Figure 4.4.6 depicted the views of the SWAYAM Coordinators on assignments that created hurdles in the implementation of MOOCs through SWAYAM. It was found that 40% of the SWAYAM coordinators thought that assignments were creating hurdles in the implementation of MOOCs through SWAYAM. Conversely, 43.87% of the SWAYAM coordinators expressed disagreement with this perspective.

The data showed that the majority of SWAYAM Coordinators (60%) did not experience issues with credit transfer at the conclusion of the course. A smaller portion of SWAYAM Coordinators (30%) encountered challenges with credit transfers, while 10% of SWAYAM coordinators were unable to provide a conclusive response.

**Table 4.4.7 Challenges faced by the SWAYAM coordinator related to Learning Strategies**

| Sl. No. | Items | Yes | No | Cannot Say |
|---------|-------|-----|-----|------------|
| 1 | Lack of time creates an obstacle in the implementation of SWAYAM MOOCs. | 40% | 60% | 00% |
| 2 | Lack of individual instruction is one of the major drawbacks in the implementation of SWAYAM MOOCs. | 20% | 80% | 00% |
| 3 | Lack of creativity creates problems in the implementation of SWAYAM MOOCs. | 40% | 60% | 00% |
| 4 | Limited availability of resources to access courses creates barriers to the implementation of SWAYAM MOOCs. | 40% | 50% | 10% |
| 5 | Lack of trained teachers is one of the major drawbacks in the implementation of SWAYAM MOOCs. | 40% | 50% | 10% |

**Figure 4.4.7 Challenges faced by the SWAYAM coordinator related to Learning Strategies**
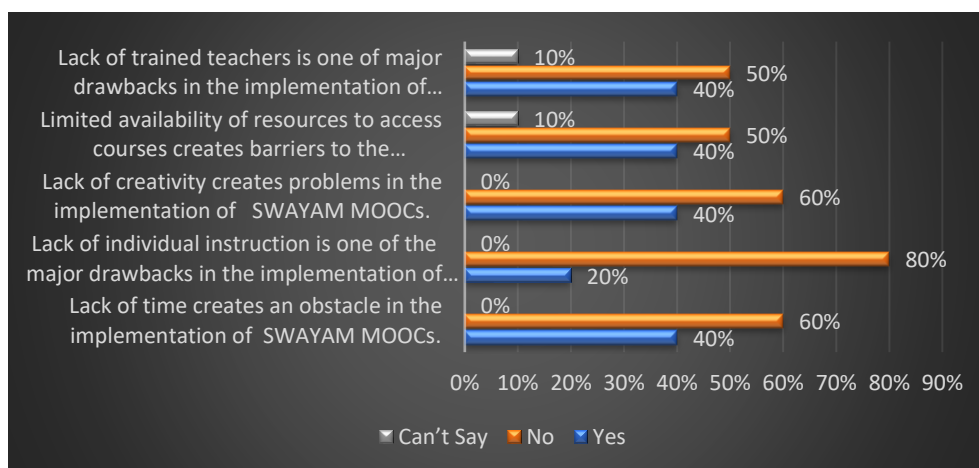
Table 4.4.7 and Figure 4.4.7 illustrated the perspectives of SWAYAM Coordinators on the challenges they encountered with learning strategies. The findings indicated that the majority of the SWAYAM coordinators (60%) did not think that the lack of time created an obstacle in the implementation of SWAYAM MOOCs. A smaller percentage of SWAYAM coordinators (40%) thought that lack of time posed a substantial hindrance.

According to the findings, most of the SWAYAM Coordinators (80%) did not consider that the lack of individual instruction was one of the major drawbacks in implementing SWAYAM MOOCs. A smaller percentage of SWAYAM Coordinators (20%) thought that the lack of individual instruction was a major drawback.

The survey results showed that the majority of the SWAYAM coordinators (60%) did not agreed that lack of creativity created problems in the implementation of SWAYAM MOOCs. In comparison, 40% of the SWAYAM coordinators thought that lack of creativity was a problem.

Table 4.4.7 and Figure 4.4.7 presented the views of the SWAYAM Coordinators on how the limited availability of resources to access courses created barriers to the implementation of SWAYAM MOOCs. The findings indicated that 50% of the SWAYAM coordinators did not think that the limited availability of resources to access courses created barriers to the implementation of SWAYAM MOOCs. 40% of the SWAYAM coordinators believed that limited resources posed a significant barrier, while 10% of the SWAYAM coordinators could not provide a definitive opinion.

The data suggested that most of the students (50%) did not feel that the lack of trained teachers was a major drawback in the implementation of SWAYAM MOOCs. 40% of SWAYAM coordinators perceived that the lack of trained teachers was a drawback, while 10% of SWAYAM coordinators could not provide a definitive opinion.

**Table 4.4.8 Challenges faced by the SWAYAM Coordinator related to the Relevance of SWAYAM MOOCs.**

| Sl. No. | Items | Yes | No | Can't Say |
|---------|-------|-----|-----|-----------|
| 1 | lack of Students interest, they are not participating in the SWAYAM MOOCs | 60% | 40% | 00% |
| 2 | Cost of examination fees creates trouble in the implementation of SWAYAM MOOCs. | 10% | 90% | 00% |
| 3 | Insufficient prior knowledge about the topic creates obstacles in the implementation of SWAYAM MOOCs. | 40% | 60% | 00% |
| 4 | Lack of motivation creates difficulty in the implementation of SWAYAM MOOCs. | 60% | 40% | 00% |
| 5 | Technical issues create hurdles in the implementation of SWAYAM MOOCs. | 40% | 60% | 00% |
| 6 | Over-the-course expectations create trouble for the implementation of SWAYAM. | 0 | 100% | 00% |
| 7 | Problems from the educational administration in the implementation of SWAYAM MOOCs. | 20 | 80 | 00% |

**Figure 4.4.8 Challenges faced by the SWAYAM Coordinator related to the Relevance of SWAYAM MOOCs.**
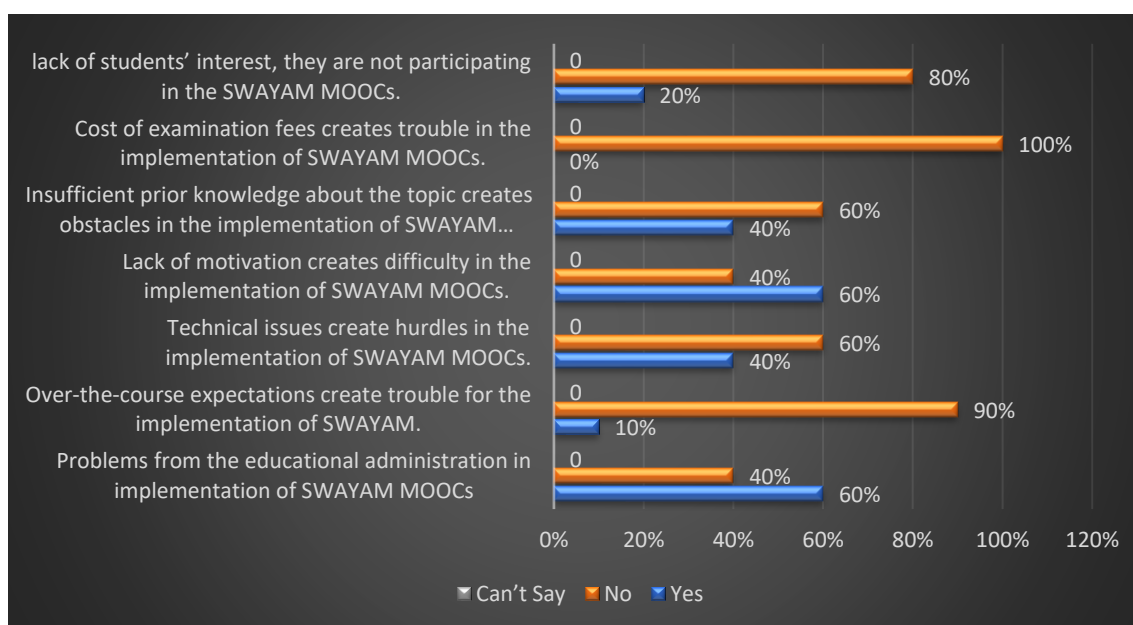
Table 4.4.8 and Figure 4.4.8 depicted SWAYAM coordinator perspectives on the challenges related to the relevance of SWAYAM MOOCs. The findings indicated that most of the SWAYAM coordinators (60%) felt that due to a lack of student interest, they were not participating in SWAYAM MOOCs, and 40% of SWAYAM Coordinators did not think that lack of interest was a significant factor.

According to the findings, most of the SWAYAM coordinators (90%) believed that the cost of examination fees did not create trouble in the implementation of SWAYAM MOOCs, and 10% of SWAYAM coordinators believed that examination fees posed a significant issue.

The findings indicated that most of the SWAYAM coordinators (60%) considered that insufficient prior knowledge about the topic did not create obstacles in the implementation of SWAYAM MOOCs, and 40% of the SWAYAM Coordinators considered that lack of previous knowledge was a significant obstacle.

According to the findings, most of the SWAYAM coordinators (60%) believed that the lack of motivation created difficulty in the implementation of SWAYAM MOOCs, and 40% of SWAYAM coordinators did not think that lack of motivation was a significant difficulty.

Table 4.4.8 and Figure 4.4.8 expressed the SWAYAM Coordinators' views on technical issues that created hurdles in the implementation of SWAYAM MOOCs. The findings indicated that most of the SWAYAM Coordinators (54.48%) perceived that technical issues did not create hurdles in the implementation of SWAYAM MOOCs. 29.72% of SWAYAM coordinators thought that technical issues were a significant hurdle.

The results showed that 100% of SWAYAM coordinators considered that over-the-course expectations did not create trouble for the implementation of SWAYAM.

The findings also indicated that most of the SWAYAM coordinators (80%) did not agreed that over-the-course expectations created trouble for the implementation of SWAYAM MOOCs, and 20% of SWAYAM coordinators believed that over-the-course expectations did create difficulty.

### 4.4.2 Challenges faced by the SWAYAM course coordinator

**Table 4.4.9 Challenges faced by the SWAYAM course coordinator related to course content.**

| Sl No. | Items | Yes | No | Can't Say |
|---|---|---|---|---|
| 1 | Lack of quality content is one of the problems in MOOCs. | 21.43% | 64.28% | 14.28% |
| 2 | Quality of audio that was used in the MOOCs course is good. | 100% | 00% | 00% |
| 3 | Language barriers among the learners create difficulty in the implementation of SWAYAM MOOCs. | 100% | 00% | 00% |
| 4 | Appropriate graphics are used in the MOOCs. | 71.43% | 28.57% | 00% |
| 5 | The syllabus for the SWAYAM MOOCs course is very vast. | 00% | 100% | 00% |

**Figure 4.4.9 Challenges faced by the SWAYAM course coordinator related to course content.**
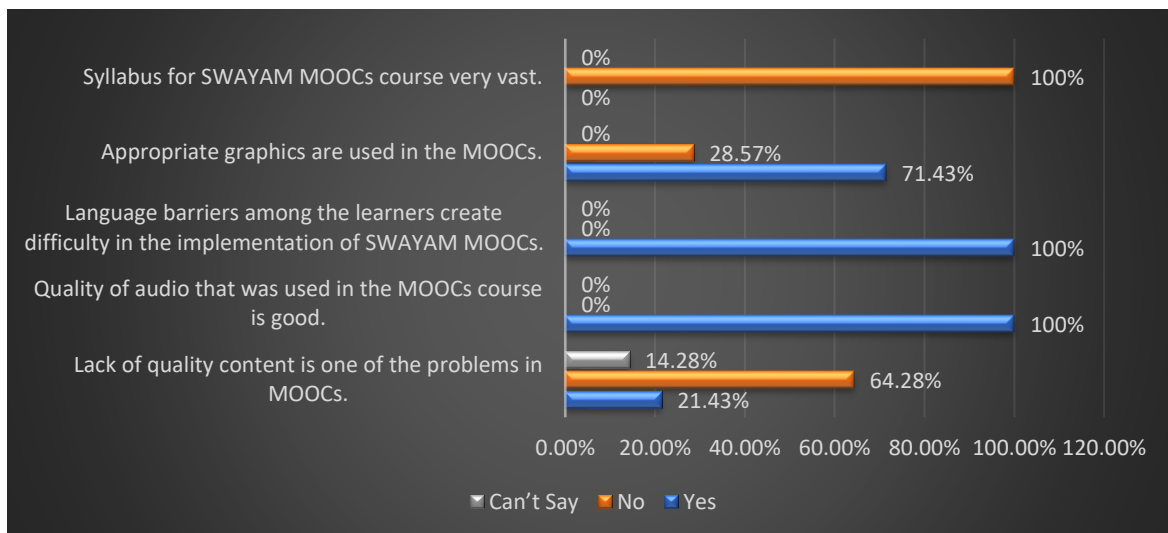


Table 4.4.9 and Figure 4.4.9 presented the SWAYAM course coordinator's perspectives on challenges related to course content. It was found that most of the SWAYAM course Coordinators (64.28%) thought that the lack of quality content was not a problem in the implementation of SWAYAM MOOCs. Approximately 21.43% of the SWAYAM

Course coordinators believed that the deficiency of quality content created a problem in the context of MOOCs. Moreover, 14.28% of the SWAYAM Course coordinators could not definitively state whether the lack of quality content was a problem in MOOCs.

According to the findings, it was determined that all the SWAYAM course coordinators, without exception, believed that the audio quality in MOOCs was excellent.

Based on the survey findings, all the (100%) SWAYAM course coordinators consistently felt that the language barrier among learners created difficulty in the implementation of SWAYAM MOOCs.

These findings revealed that a majority (71.43%) of respondents considered the graphics used in MOOC courses suitable, while a notable minority (28.57%) disagreed with their appropriateness.

Table 4.4.9 and Figure 4.4.9 presented the perspectives of SWAYAM course coordinators on the syllabus for SWAYAM MOOCs. The data revealed that 100% of the SWAYAM course coordinators consistently believed that the syllabus for the SWAYAM MOOCs course needed to be more comprehensive.

**Table 4.4.10 Challenges faced by the SWAYAM course coordinator related to Assessment and discussion forum**

| Sl. No. | Items | Yes | No | Cannot Say |
|---------|-------|-----|-----|-----------|
| 1 | The exam-oriented approach creates problems in the implementation of SWAYAM (MOOCs) | 21.43% | 78.57% | 00% |
| 2 | Lack of continuous active engagement in the discussion forum creates problems in the smooth functioning of SWAYAM MOOCs. | 42.86% | 57.14% | 00% |
| 3 | Absence of lab work is the major drawback in the implementation of SWAYAM (MOOCs). | 50% | 42.85% | 7.14% |
| 4 | Assignments creating hurdles in the implementation of MOOC through SWAYAM. | 14.28% | 85.71% | 00% |
| 5 | Problems with credit transfer at the end of the course. | 100% | 00% | 00% |

**Figure 4.4.10 Challenges faced by the SWAYAM course coordinator related to Assessment and discussion forum**
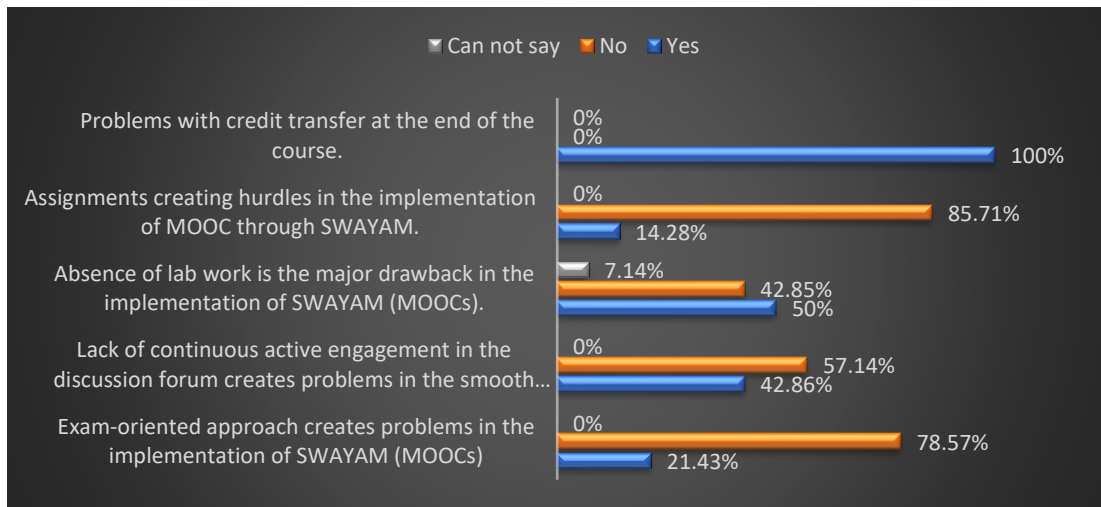


Table 4.4.10 and Figure 4.4.10 depicted the SWAYAM Course Coordinator's perspectives on the Challenges related to assessment and discussion forums. The results indicated that 78.57% of participants viewed the exam-focused strategy as not posing challenges in the implementation of SWAYAM (MOOCs), while 21.43% of respondents thought that it did create problems.

According to the findings, a significant portion of respondents, 42.86%, showed concern that the lack of continuous active engagement in the discussion forum might have posed challenges to the smooth functioning of SWAYAM. However, the majority of respondents (57.14%) did not believe that the lack of continuous active engagement in the discussion forum created problems for the smooth functioning of SWAYAM MOOCs.

According to the survey findings, a substantial 50% of respondents identified the absence of lab work as a significant drawback in the implementation of SWAYAM MOOCs. However, it was noteworthy that 42.85% of respondents disagreed with the notion that the lack of lab work was a significant drawback in the implementation of SWAYAM MOOCs.

The data revealed that an overwhelming majority of 85.71% of respondents were confident that assignments did not create obstacles in the implementation of MOOCs

through SWAYAM. In comparison, 14.28% perceived assignments as a potential hurdle.

Table 4.4.10 and Figure 4.4.10 expressed the views of the SWAYAM course coordinator on problems with credit transfer at the end of the course. It had been found that all the respondents (100%) in the survey had encountered difficulties related to credit transfer upon completing the course.

**Table 4.4.11 Challenges faced by the SWAYAM course coordinator related to learning strategies**.

| Sl. No. | Items | Yes | No | Can't Say |
|---------|-------|-----|-----|-----------|
| 1 | Lack of time creates an obstacle in the implementation of SWAYAM MOOCs. | 50% | 50% | 00% |
| 2 | Lack of individual instruction is one of the major drawbacks in the implementation of SWAYAM MOOCs. | 35.71% | 57.14% | 7.14% |
| 3 | Lack of creativity creates problems in the implementation of SWAYAM MOOCs. | 35.71% | 64.28% | 00% |
| 4 | Limited availability of resources to access courses creates barriers to the implementation of SWAYAM MOOCs. | 21.43% | 78.57% | 00% |
| 5 | Lack of trained teachers is one of the significant drawbacks in the implementation of SWAYAM MOOCs. | 42.86% | 57.14% | 00% |

**`Figure 4.4.11 Percentage of different problems faced by the SWAYAM course coordinator in the implementation of SWAYAM MOOCs**
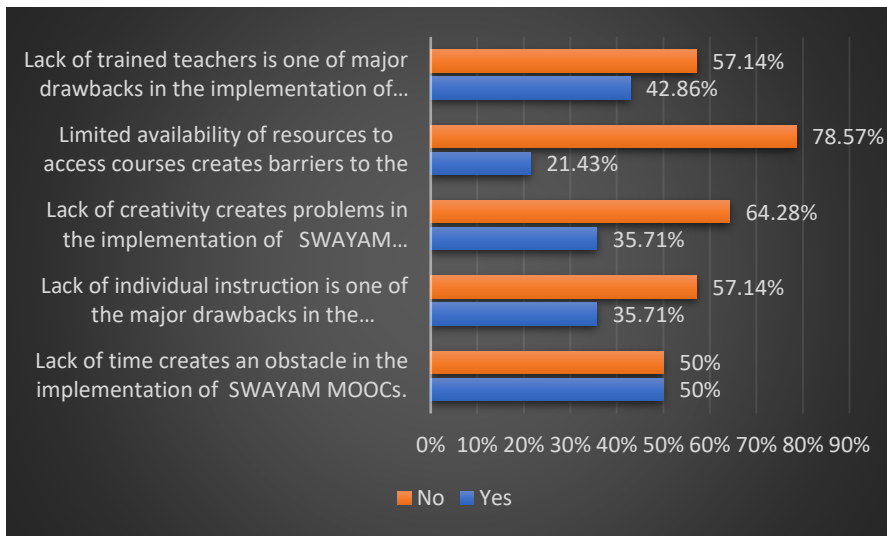


Table 4.4.11 and Figure 4.4.11 presented the perspectives of SWAYAM Course Coordinators on the challenges they faced with learning strategies. The research indicated that half of the respondents (50%) believed that there was not enough time for the implementation of SWAYAM MOOCs. Conversely, the remaining 50% of the participants did not perceive the lack of time as a hindrance to the implementation of SWAYAM MOOCs.

According to the findings, the majority of respondents (57.14%) did not perceive the lack of individual instruction as one of the major drawbacks in the implementation of SWAYAM MOOCs. More than one-third of respondents (35.71%) thought that the lack of individual instruction was one of the major drawbacks in the implementation of SWAYAM MOOCs. A small percentage of respondents (7.14%) were still undecided on whether the absence of individualized instruction constituted a significant disadvantage.

The survey results showed that the majority of the respondents (64.28%) did not agree that the lack of creativity created problems in the implementation of SWAYAM MOOCs, and more than one-third of respondents (35.71%) agreed that the absence of creativity posed challenges in the implementation of SWAYAM MOOCs.

Table 4.4.11 and Figure 4.4.11 expressed the views of the SWAYAM course coordinator on the limited availability of resources to access courses, which created

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barriers to the implementation of SWAYAM MOOCs. The findings indicated that the majority of respondents (78.57%) did not perceive that the limited availability of resources created barriers to the implementation of SWAYAM MOOCs, and a minority portion of respondents (21.43%) expressed concern that the limited availability of resources to access courses posed barriers to the effective implementation of SWAYAM MOOCs.

Based on the data, the majority of SWAYAM course coordinators (57.14%) did not consider the lack of trained teachers as a major obstacle in the implementation of SWAYAM MOOCs. However, 42.86% of SWAYAM course coordinators viewed the shortage of qualified teachers as a significant drawback.

**Table 4.4.12 Challenges faced by the SWAYAM course coordinator related to relevance of SWAYAM MOOCs**

| Sl. No. | Items | Yes | No | Can't Say |
|---|---|---|---|---|
| 1 | Due to lack of Students interest, they are not participating in the SWAYAM MOOCs. | 21.43% | 78.57% | 00% |
| 2 | Cost of examination fees creates trouble in the implementation of SWAYAM MOOCs. | 100% | 00% | 00% |
| 3 | Insufficient prior knowledge about the topic creates obstacles in the implementation of SWAYAM MOOCs. | 21.43% | 78.57% | 00% |
| 4 | Lack of motivation creates difficulty in the implementation of SWAYAM MOOCs. | 28.57% | 71.43% | 00% |
| 5 | Technical issues create hurdles in the implementation of SWAYAM MOOCs. | 57.14% | 42.86% | 00% |
| 6 | Over-the-course expectations create trouble for the implementation of SWAYAM. | 42.86% | 57.14% | 00% |
| 7 | problems from the educational administration in implementation of SWAYAM MOOCs. | 21.43% | 78.57% | 00% |

**Figure 4.4.12 Challenges faced by the SWAYAM course coordinator related to Relevance of SWAYAM MOOCs**
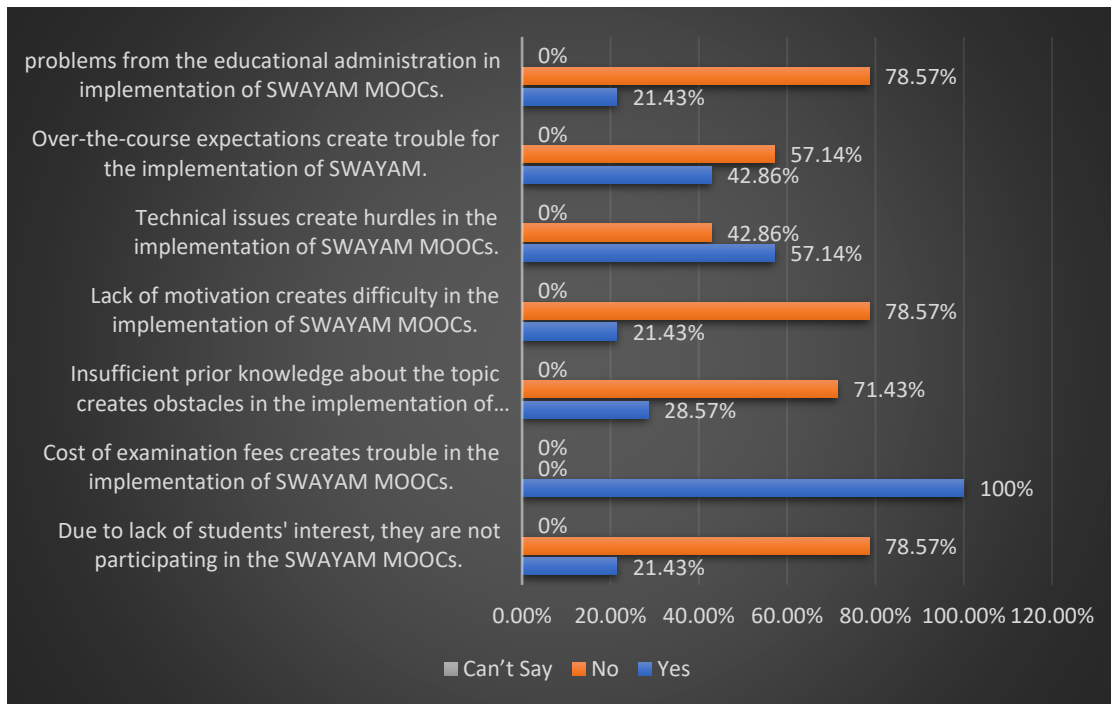


Table 4.4.12 and Figure 4.4.12 depicted the SWAYAM course coordinator's perspectives on the challenges related to the relevance of SWAYAM MOOCs. The findings indicated that the majority of respondents (78.57%) disagreed with the notion that lack of student interest was a significant factor in non-participation. 21.43% of respondents thought that the lack of student interest was a significant factor contributing to non-participation in SWAYAM MOOCs.

Based on the findings, 100% of respondents agreed that the cost of examination fees significantly hindered the successful implementation of SWAYAM MOOCs.

The findings clearly indicated that the majority of respondents (78.57%) disagreed with the notion that insufficient prior knowledge about the topic created obstacles in the implementation of SWAYAM MOOCs, and a minority of respondents (21.43%) considered that a lack of previous knowledge about the topic posed obstacles in the implementation of SWAYAM MOOCs.

Table 4.4.12 and Figure 4.4.12 expressed the views of the SWAYAM course coordinator on lack of motivation, which created difficulty in the implementation of SWAYAM MOOCs. The findings indicated that the majority of respondents (71.43%) disagreed

with the notion that the lack of motivation created difficulty in the implementation of SWAYAM MOOCs, and 28.57% of respondents believed that the lack of motivation posed difficulties in the implementation of SWAYAM MOOCs.

According to the findings, most of the SWAYAM course coordinators (57.14%) agreed that technical issues did create hurdles in the implementation of SWAYAM MOOCs and 42.86% of SWAYAM course coordinators did not think that technical issues were a significant hurdle.

Table 4.4.12 and Figure 4.4.12 expressed the views of the SWAYAM course coordinator on over-the-course expectations creating trouble for the implementation of SWAYAM. The findings indicated that 57.14% of SWAYAM course coordinators did not perceive that over-the-course expectations created trouble for the implementation of SWAYAM MOOCs, and 42.86% of SWAYAM course coordinators perceived that over-the-course expectations did create difficulty.

According to the findings, the majority of respondents (78.57%) reported no issues with educational administration in implementing SWAYAM MOOCs. Nonetheless, 21.43% of SWAYAM course coordinators acknowledged facing challenges.

## 4.5    Analysis of the Objective No. 5

**To study different remedial measures suggested by the stakeholders regarding the different problems that they faced related to SWAYAM MOOCs.**

### 4.5.1    Students Suggestions towards MOOCs

Students suggestions towards MOOCs encompass various dimensions, each with its own set of aspects. The first dimension focuses on Assignment and Discussion Forums, which include elements such as Assessment Management and Discussion Forums. The second dimension relates to Course Content, emphasizing Clarity, Interactivity, Technical Improvement, and Updated Content. Learning Strategies form the third dimension, highlighting Engagement and Motivation, Interactive and Practical Learning, Support and Communication, and Teaching Methods. Lastly, the fourth dimension covers the Relevance of SWAYAM MOOCs, addressing Awareness and

Accessibility, Course Content and Structure, Examination and Certification, Feedback and Suggestions, Teaching and Learning Methods, Technical Support and Infrastructure, and User Interface and Experience. All the dimensions are discussed below:-

**Figure. 4.5.1 Subcodes of the primary theme Students suggestions towards MOOCs**
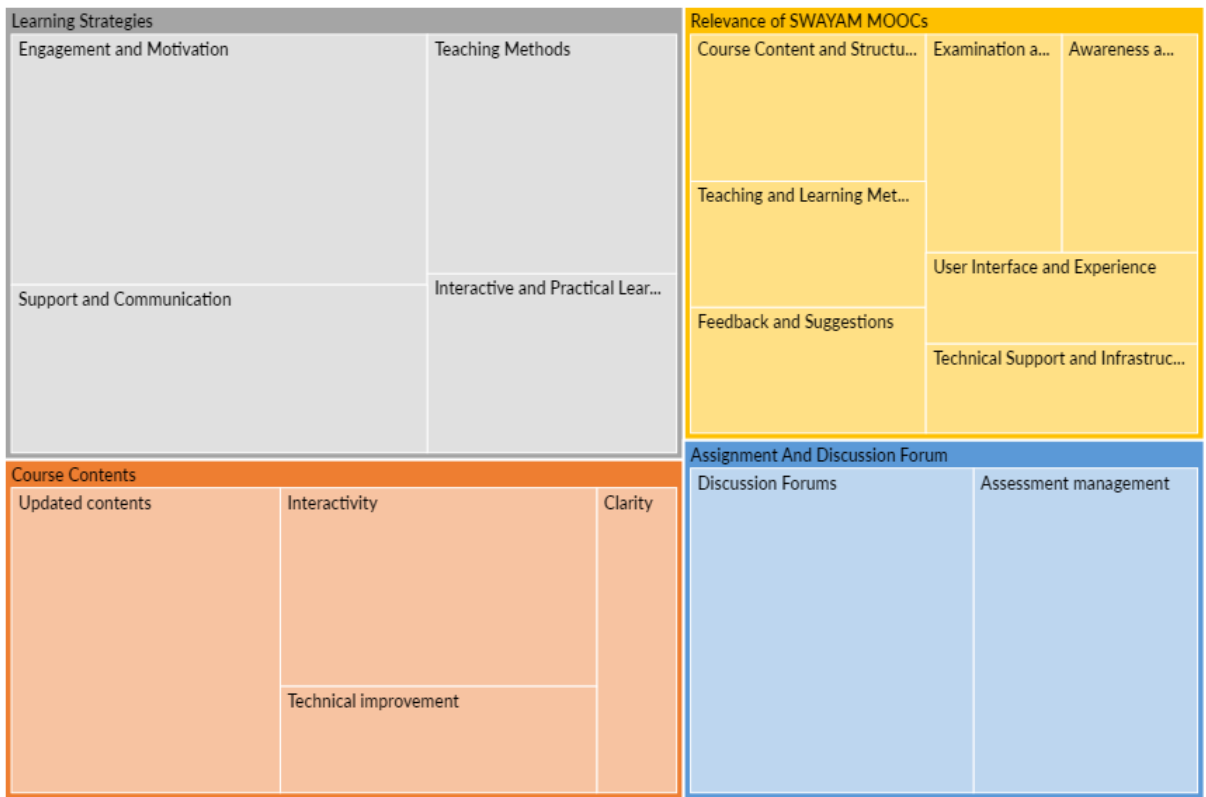
**Figure 4.5.2 Representing the sub-themes that emerged in the interview transcript through a tree-map chart**



### 4.5.1.1 Student Suggestions Regarding Assignment and Discussion Forum

**Student-Centric Assessments**: The qualitative data revealed that Students suggestions for enhancing the assignment and discussion forum in MOOCs focused on boosting the collaborative and interactive facets of these platforms. Some students recommended increasing engagement through more sophisticated means while avoiding lengthy sets of objective questions and written assignments. They also suggested incorporating oral tests and providing creative strategies despite potential logistical challenges. Other students advocated for assignments that encouraged regularity and punctuality, along with updated assessment management. Further, the participants highlighted the need to improve assessment quality by enhancing interaction, incorporating practical examples, and including videos.

**Interactive Discussion Forums:** Students emphasized the importance of interactive and responsive discussion forums that facilitated the swift addressing of problems. They proposed the addition of short, interactive sessions along with live classes during the course while also maintaining a constructive and courteous discussion forum

atmosphere. Some students suggested incorporating social media into discussion forums to boost their effectiveness. Generally, students also proposed that the inclusion of immediate feedback and clear guidelines for participation significantly enhanced the quality of the discussions.

### 4.5.1.2 Student Suggestions Regarding Course Contents

**Clarity:** Some of the students have emphasized the need for course materials to be more explicit, more concise, and easier to understand. They pointed out that overly complex language and dense text can hinder learning, making it difficult for students to grasp critical concepts and retain information.

**Diverse learning materials**: When questioned about learning materials, students felt that there was an integrated, more comprehensive range of components in the course, including interactive quizzes, simulations, podcasts, infographics, and gamification, to meet the demands of various learning styles.

**Technical improvement:** Some of the students suggested using modern technology to enhance the quality of video and audio. Moreover, some students also suggested using artificial intelligence (AI) to personalize the content according to a learner's progression, preferences, and preferred learning style, therefore enhancing the engagement and effectiveness of the learning experience.

**Updated contents:** Students noted the importance of updating the SWAYAM MOOCs course content to reflect current advancements and trends in their respective fields. They believed that incorporating the latest developments not only kept the curriculum relevant but also enhanced their learning experience by providing insights into contemporary practices and innovations.

### 4.5.1.3 Student Suggestions Regarding Learning Strategies

**Engagement and Motivation**: Some of the students asserted that the integration of more instructive sessions provided valuable knowledge and understanding. Interactive sessions, which involved dialogues and group activities, were also seen as beneficial. According to the comments made by some students, utilizing advanced techniques like graphics and animation, along with new educational technology, made the learning

experience more engaging. The implementation of frequent exams helped maintain student engagement and offered instant feedback, hence enhancing motivation.

**Interactive and Practical Learning**: The participants suggested incorporating more interactive sessions into the curriculum to ensure active participation and motivation among students. Moreover, this provided more hands-on learning opportunities that enhanced theoretical understanding and improved overall learning outcomes. Including online labs and interactive simulations helped provide a virtual environment for students to perform experiments and visualize complex concepts.

**Support and Communication:** According to the participants, to enhance engagement and motivation in online classes, students emphasized the need to receive individualized attention and establish connections with each student. Sufficient learning materials and acknowledgment of successful instructional methods were essential. Establishing connections, facilitating peer learning, and cultivating collaboration were crucial to overcoming obstacles in MOOCs. Some of the students said the assignments should assess both the level of engagement and the ability to be on time, and implementing personalized, interactive, and student-centered approaches greatly improved the quality of the online learning experience.

**Teaching Methods:** The study's participants elaborated that integrating multiple languages in teaching increased student participation. It was recommended to incorporate sophisticated sets of objective questions and written tasks in order to foster a sense of seriousness. Despite the logistical hurdles, oral examinations also yielded benefits. It was crucial to offer innovative tactics and a diverse range of themes for debate.

#### 4.5.1.4   Student Suggestions Regarding the Relevance of SWAYAM MOOCs

**Course Content and Structure:** Some of the students held a belief that the syllabus should have been reduced and course content decreased. Courses should have been more efficient and more specific, and more new courses should have been introduced, especially in technical fields.

**User Interface and Experience:** Some of the students reported that the SWAYAM portal was not user-friendly, and students had technological difficulties when it came to enrolling, registering, and selecting exam centers. The platform needed to be updated and made more user-friendly. Providing better visual content and including a user-

friendly and intuitive interface could have significantly enhanced the learner's experience. Optimizing the learning platform for mobile use might have significantly improved accessibility and user experience.

**Examination and Certification:** Participants suggested that there was a need to decrease examination fees, make exam times more convenient, and improve cooperation regarding exam venues. Some students also indicated that certification processes should have been improved.

**Teaching and Learning Methods:** Students noted the use of innovative teaching methods and had good communication skills during teaching. Live classes and quizzes, along with interactive learning strategies, could have improved engagement. To enhance the course's level of engagement and effectiveness, it was imperative to provide comprehensive information, detailed explanations, informative videos, and illustrative examples.

**Awareness and Accessibility:** Some of the students suggested that more awareness should have been created about SWAYAM courses, especially in rural areas. The platform should have been more inclusive and reduced examination fees for underprivileged students.

**Technical Support and Infrastructure:** According to the participants, technical issues should have been addressed, and enhancing infrastructure was crucial. The exam centers should have been more accessible and closer to students homes, which helped reduce the stress and inconvenience of traveling long distances.

**Feedback and Suggestions:** The study's participants elaborated that there should have been a mechanism for quick responses to student queries and suggestions, and student feedback should have been actively used to improve the platform.

### 4.5.2 SWAYAM Coordinator's Suggestions on MOOCs Improvement

SWAYAM coordinators play a crucial role in improving MOOC courses. They can enhance course content by making it interesting, practical, and relevant. They can also improve assessment methods and discussion forums to increase student engagement. Moreover, coordinators should focus on innovative teaching strategies, support learner needs, and ensure effective course implementation and management. These efforts ensure that MOOC courses are engaging, accessible, and beneficial for students. The analysis has been carried out with the help of NVivo software. The theme, sub-themes
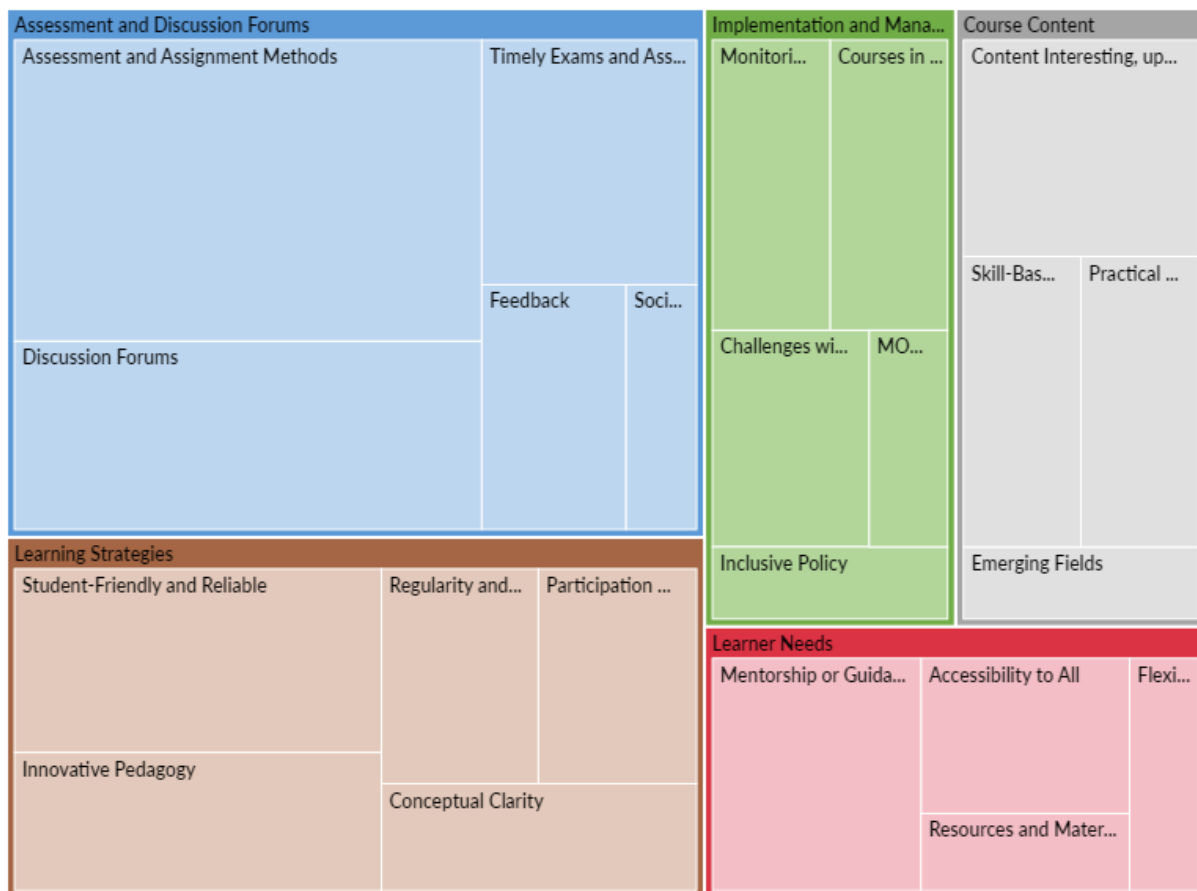
or codes, and sub-codes of this analysis generated from the data which has been presented in Figure 4.5.4 (through tree map)

**Figure. 4.5.3  Subcodes of the main theme "suggestion" emerged from the interview transcript**

**Figure 4.5.4  Representing the theme and sub-themes that emerged from the data through a tree-map chart**



The suggestions shared by the participants were into the followings themes and sub-themes- such as course content (content interesting, updating and interactive, practical orientation and societal relevance, emerging fields, skill-based courses), assessment and discussion forums (social media integration, assessment, and assignment methods, discussion forums, timely exams and assignments, feedback), learning strategies (innovative pedagogy, conceptual clarity, student-friendly and reliable, regularity and consistency, participation and engagement), the learner needs (resources and materials, accessibility to all, mentorship or guidance, flexibility in learning), implementation and management(monitoring and awareness, inclusive policy, challenges with solutions, MOOCs facilitators, courses in regional languages).

#### 4.5.2.1   SWAYAM Coordinator's Suggestions Regarding Course Content

Improving the course content of MOOCs involves enhancing the quality, relevance, and interactivity of the material to engage learners effectively. The participants suggest a few aspects expressed about the course content below-

**Content interesting, updating, and interactive**

Some SWAYAM coordinators included interactive elements such as videos, interactive quizzes, and multimedia that could be integrated into the content of courses to make MOOCs content more attractive and enjoyable for learners. The course was well-structured, with obvious learning goals, organized materials, and easy navigation. These features enabled the SWAYAM coordinator and other students to easily navigate through the course while at the same time understanding its contents. The following were a few of the statements made by the SWAYAM coordinator.

*"*I belief that *incorporating engaging elements such as videos, interactive quizzes, and multimedia, the course content can capture learners' attention and make the learning experience more enjoyable and effective" (***sc1***).*

*" The course is well-structured with clear learning objectives, organized content, and intuitive navigation are essential. These elements make it easier for learners like me to navigate through the course and understand the material. This can include clear course outlines, module summaries, and easy-to-follow instructions for activities"(***sc5***).*

Some SWAYAM coordinators also suggested that content must be updated with current trends in practice to ensure that learning remains relevant and meaningful. Some of the coordinators also frequently reviewed MOOC materials to keep up with the latest developments within their field.

Another participant stated, *" Up-to-date staying with current trends and practices is crucial for ensuring that learning remains relevant and meaningful. As an instructor, it's important to regularly review and update course materials to reflect the latest developments in the field" (***sc4***).*

**Practical orientation and societal relevance**

The emphasis on practical orientation and societal relevance in revising course content for MOOCs was identified as a new approach to education that suited the changing global landscape. Some SWAYM coordinators suggested that teachers could make learning more beneficial for students by ensuring that their skills were relevant to real-life professional circumstances instead of theoretical issues, thereby narrowing the gap between theory and practice. Furthermore, some SWAYM coordinators argued that course content for MOOCs needed to be improved; they should focus on providing practical skills and knowledge that were relevant to real-world applications and beneficial to society. This could include courses on humanities, entrepreneurship, sustainability, and technology, which would address current and future societal challenges and needs. The following remarks provide support for this argument:

*" Course content must be improving for MOOCs, and we should focus on providing practical skills and knowledge that are relevant to real-world applications and beneficial to society. This can include courses on entrepreneurship, sustainability, healthcare, and technology, among others, that address current and future societal challenges and needs"* (**sc2**).

*" Enhancing the course content can make learning more practical and relevant. This helps students to understand how the concepts they are learning apply in real-life situations, which can improve their understanding and retention of the material"* (**sc8**).

**Emerging fields**

The SWAYAM coordinator stressed the importance of developing courses on emerging fields in MOOCs. According to them, this was a way of ensuring that learners had access to state-of-the-art knowledge and skills, as well as enhancing their competitiveness within the rapidly changing job market. These topics were diverse and included artificial intelligence, blockchain technology, cyber security, and data science. Staying current with these new fields enabled one to acquire the latest skills and prepared one for modern workplace hurdles. A SWAYAM coordinator commented.

*"In MOOCs, developing courses on emerging fields ensures that learners, including myself, have access to cutting-edge knowledge and skills that are in demand in the*

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*rapidly evolving job market. These courses can cover topics such as artificial intelligence, blockchain technology, cybersecurity, and data science, among others. This relevancy of the topic ensures that learners are equipped with the latest expertise and are better prepared for the challenges of the modern workforce"* (**sc7**).

**Skill-based courses**

The SWAYAM coordinator highlighted the relevance of incorporating skill-based training courses into MOOCs. They thought that such courses could significantly improve the valuable significance of MOOCs and boost students capabilities by targeting specific skills critical for various sectors, including communication, problem-solving, and technical skills. They also emphasized the role of awards and motivation in encouraging students to opt for relevant courses, which could enhance their confidence and understanding of foundational programs, thereby encouraging further studies and skill development. Some of the SWAYAM coordinators have mentioned this.

*"Adding more skill-based courses into MOOCs can greatly enhance their practical relevance and improve students employability. These courses can target specific skills essential for various industries, including communication, problem-solving, and technical skills, among others. "(***sc5***).*

*"Awarding students and motivating them to opt for relevant courses can enhance their confidence and understanding of basic courses, encouraging further study and skill development"(***sc10***).*

### 4.5.2.2 SWAYAM Coordinator's Suggestions Regarding Assessment And Discussion Forums

**Social media integration**

The SWAYAM coordinator proposed that social media platforms should be integrated into MOOCs to promote student participation and collaboration. They argued that integrating WhatsApp and Telegram discussion forums with popular social media networks could increase learner access and engagement. This way, it was easier for learners to take part in conversations and browse through course materials, and social media might have been helpful in promoting collaboration among fellow students.

Furthermore, they suggested that groups or project teams could be formed on social media sites so as to enable the participation of students in group-based assignments and focus on community building amongst learners, the promotion of peer-to-peer learning, and the exchange of ideas plus other digital resources. The participants commented that.

*"Integrating discussion forums with popular social media platforms like WhatsApp and Telegram can significantly improve the accessibility and engagement of learners. This approach leverages the familiarity and convenience of these platforms, making it easier for learners to participate in discussions and interact with course materials. Using social media can help create a sense of community among learners, fostering collaboration and knowledge sharing beyond the confines of the MOOC platform"* **(sc2)**.

*"In my opinion, various social media platforms can be utilized to establish study groups or project teams, enabling students to collaborate on assignments. This approach fosters a sense of community among learners, enhances peer-to-peer learning, and promotes the exchange of ideas and resources"* **(sc1)**.

**Assessment and assignment methods**

The SWAYAM coordinator emphasized the importance of developing courses on emerging fields in MOOCs. They believed that this approach not only provided learners with access to cutting-edge knowledge and skills but also enhanced their competitiveness in the rapidly evolving job market (Karnouskos, 2017). The courses covered a range of relevant topics, including artificial intelligence, blockchain technology, cybersecurity, and data science. By staying updated with these emerging fields, learners were better equipped with the latest expertise and prepared for the challenges of the modern workforce, they remarked.

*"It is important to reevaluate the current assessment and assignment methods used in MOOCs to ensure they are fair and balanced. This means providing equal opportunities for all learners to succeed, regardless of their background or circumstances. "* **(sc3)**.

*"In my opinion, incorporating multimedia elements such as videos, audio clips, and interactive quizzes into assessments and discussion forums is crucial. These elements*

*not only enhance engagement but also improve comprehension, making the learning experience more effective and enjoyable for participants"(***sc4***).*

*"It is critical to improve the assessment forum's user interface and functioning. This enhancement can make navigation and participation more intuitive and user-friendly."(sc**6***).*

*"Providing a range of assessment methods tailored to various learning styles can ensure that every student can showcase their comprehension and abilities. This might involve utilizing exams, quizzes, essays, projects, and presentations" (sc**9***).*

*"Conducting regular surveys is essential to gather feedback and suggestions for improving the assessment and discussion forum. This approach ensures that learner needs and preferences are taken into account, leading to a more engaging and effective learning experience. It helps in identifying areas for improvement and making necessary adjustments to the course content and structure"(***sc5***).*

*"Offering clear and straightforward instructions for assignments and activities is essential. It helps students grasp what is required of them and enables them to complete their tasks effectively. This clarity minimizes confusion and keeps students on track with their learning objectives"(***sc7***).*

**Discussion forums**

The SWAYAM coordinators suggest several improvements for discussion forums in MOOCs. They propose grading students for active participation in forums to promote meaningful interactions and knowledge sharing. They also suggest offering incentives or rewards for active participation to motivate learners and encourage students to share their experiences and insights can foster a sense of community and collaboration. Many participants noted that:

*"To promote meaningful interactions and knowledge sharing among students, I believe that giving students a portion of their grade for active participation in discussion forums is essential. This will not only encourage students to participate more actively in the course material, but it will also create a collaborative learning environment where students can gain from each other's varied perspectives and experiences."(***sc2***).*

*"In my opinion, offering incentives or rewards for active participation in discussion forums can significantly motivate learners to contribute more actively. This approach can enhance the overall learning experience by encouraging learners to engage with the course material and with each other, leading to a more dynamic and enriching learning environment"* **(sc1***).*

*" It's important to encourage students to share their own experiences and insights in the discussion forum. This not only enriches the learning experience for everyone but also helps in fostering a sense of community and collaboration among learners."***(sc3***).*

*"It is important to create a dedicated space for students to ask questions and seek clarification outside of the discussion forum. This provides a more structured and organized way to address queries, ensuring that students receive timely and accurate responses to their questions"***(sc9***).*

*"It's essential to provide clear guidelines for effective online communication and etiquette in the discussion forum. These guidelines help ensure that learners engage respectfully and productively with one another, fostering a positive and conducive learning environment. This process promotes meaningful interactions and enhances the overall learning experience for everyone involved"***(sc10***).*

*"In my opinion, providing chances for students to work together on group projects or assignments can promote teamwork and peer learning"***(sc4***).*

**Timely exams and assignments**

The SWAYAM coordinators highlighted the importance of timely exams and assignments in MOOCs. They believed that conducting exams and assignments regularly, especially for courses other than NPTEL, ensured consistency and accountability. They also stressed the significance of maintaining regular attendance in course lectures, submitting assignments on time, and actively participating in group discussions for practical assessment. Two SWAYAM coordinators remarked that-

*" It is important to conduct exams and assignments regularly, especially for courses other than NPTEL, to ensure consistency and accountability"***(sc2***).*

*"In my opinion, maintaining regular attendance in course lectures, submitting assignments on time, and actively participating in group discussions are essential for effective assessment"***(sc6***).*

**Feedback**

The importance of feedback in enhancing MOOCs course content and delivery. This perspective emphasizes the reciprocal relationship between course creators and learners, where feedback serves as a vital tool for continuous improvement, as noted by one of the SWAYAM coordinators that-

*"For students, feedback from is crucial for enhancing course content and delivery. By actively seeking and incorporating feedback, we, as course creators, can ensure that our courses meet the needs and expectations of learners, ultimately resulting in a more effective learning experience"***(sc8***)*

### 4.5.2.3 SWAYAM Coordinator's suggestions Regarding Learning Strategies

Improving MOOCs to enhance learning strategies can be achieved through various methods, as suggested by the interviewees. The participants commented that:

**Innovative pedagogy**

The SWAYAM coordinators suggest the use of innovative pedagogy in MOOCs to improve learning outcomes. (Ferguson & Sharples, 2014) They propose employing creative teaching methods such as project-based learning, problem-based learning, and inquiry-based learning. They also advocate for adding interactive and multimedia components to MOOC course content, including videos, animations, simulations, and interactive quizzes. They believe these additions can solidify important concepts and make the learning process more engaging. Many participants noted that:

*"Students should be encouraged to utilize innovative pedagogy. This entails employing creative teaching methods and approaches to improve learning outcomes. Examples include project-based learning, problem-based learning, and inquiry-based learning, which are more engaging and effective compared to traditional methods"***(sc12***).*

*"Adding interactive and multimedia components to MOOC course content can greatly improve the learning experience. This might involve incorporating videos, animations,*

*simulations, and interactive quizzes. These additions can help solidify important concepts and make the learning process more engaging and enjoyable"***(sc1**).*

Some SWAYAM coordinators suggest enhancing the learning experience through the efficient integration of technology into the educational process, providing access to a wide range of resources and tools to supplement traditional teaching methods. One of the SWAYAM Coordinators remarked that-

*"*The learning experience can be enhanced through the more efficient integration of technology into the educational process. *This can be achieved by providing access to a wide range of resources and tools, such as online platforms, multimedia presentations, and interactive simulations, to supplement traditional teaching methods."***(sc5**).*

**Conceptual clarity**

The SWAYAM coordinator emphasized the importance of conceptual clarity in MOOCs. They suggested using innovative strategies that prioritized understanding underlying concepts and principles over rote learning. One of the SWAYAM coordinators commented on that"-

*"It is crucial to use innovative strategies that prioritize conceptual clarity instead of rote learning. This involves emphasizing the understanding of underlying concepts and principles rather than memorization. Such an approach can help students gain a deeper understanding of the subject and enhance their ability to apply knowledge in real-world scenarios" (***sc7**).*

**Student-friendly and reliable**

The SWAYAM Coordinator proposed making the courses well-organized, easy to navigate, and accessible. They believed that implementing an Activity-Based Curriculum (ABC) approach could enhance the learning experience by providing hands-on activities and practical experiences. They also emphasized the importance of keeping the course content up-to-date to reflect current trends and practices. They suggested that instructors should have regularly reviewed and updated their course materials to incorporate the latest developments in their field. They remarked that

*"In my opinion, improving the courses to be more student-friendly and ensuring that the course materials are well-organized, easy to navigate, and accessible. I believe that implementing an ABC (Activity-Based Curriculum) approach can enhance the learning experience by providing hands-on activities and practical experiences "***(sc3)***.*

*"It is crucial to ensure that the course content remains up-to-date, reflecting current trends and practices. This helps to keep the learning experience relevant and meaningful. To achieve this, instructors should regularly review and update their course materials to incorporate the latest developments in their field" (***sc5***).*

*"In my opinion, Offering chances for students to reflect on their learning progress and goals is beneficial. It allows them to track their learning journey and set meaningful goals, which can boost motivation and improve their overall learning experience" (***sc4***).*

**Regularity and consistency**

The SWAYAM coordinators highlight the importance of regularity and consistency in MOOCs. They suggest regularly hosting webinars or live sessions to deepen learners' understanding of the course content and address any doubts or questions. They also emphasize the need for students to maintain consistent attendance in course lectures, complete assignments on time, and actively participate in group discussions. They remarked that –

*"Regularly hosting regular webinars or live sessions can help deepen learners' understanding of the course content and address any doubts or questions they may have" (***sc9***).*

*"In my opinion, maintaining consistent attendance in course lectures, completing assignments on time, and actively participating in group discussions are crucial for staying engaged and reaching learning goals. This responsibility falls on students, who must stay dedicated to meeting the requirements of the course" (***sc4***).*

**Participation and engagement**

The SWAYAM coordinators believed that this approach helped create a dynamic learning environment where students could learn from each other's perspectives and experiences. This fostered a sense of community and collaboration among learners,

enhancing the overall learning experience. One of the SWAYAM coordinators comments on that-

*"Encouraging active participation and engagement in online discussions and activities helps create a dynamic learning environment where students can learn from each other's perspectives and experiences. This fosters a sense of community and collaboration among learners"* (**sc10**).

### 4.5.2.4 SWAYAM Coordinator's Suggestions Regarding Learner Needs

**Resources and Materials**: The qualitative analysis revealed that the resources and materials provided by SWAYAM MOOCs played a crucial role in bridging knowledge gaps for all learners, thereby enhancing their overall understanding of the course content. By offering a diverse array of supplementary materials, such as video lectures, interactive quizzes, and reading resources, SWAYAM ensured that learners had multiple avenues to explore and comprehend complex concepts. These resources catered to different learning styles and paces, allowing students to revisit and review the content as needed. One of the SWAYAM coordinators remarked that-

*"Provide access to additional resources and materials for all kinds filling the knowledge gap."* (**sc6**).

**Accessibility to all**

SWAYAM Coordinators suggested that courses should have been accessible to all learners, including those with disabilities and limited access to technology. This could have been achieved by offering transcripts for videos, using accessible formats for course materials, and providing support for learners with special needs. They also emphasized the need for a supportive and inclusive learning environment that encouraged respect, empathy, and understanding among both students and instructors. They remarked that-

*"In my opinion, ensuring that courses are accessible to all learners, including those with disabilities or limited access to technology, is crucial for promoting inclusivity and providing equal learning opportunities. This can be achieved by offering transcripts for videos, using accessible formats for course materials, and providing support for learners with special needs"* (**sc5**).

*"Creating a supportive and inclusive learning environment is crucial for ensuring a positive learning experience for all students. This includes encouraging respect, empathy, and understanding among both students and instructors"* (**sc8***)*.

**Mentorship or guidance**

Offering mentorship from instructors improved the learning experience by providing personalized support and feedback through virtual office hours, one-on-one consultations, and mentoring programs (El Said, 2016; Tang et al., 2024). SWAYAM Coordinators also emphasized the need for continuous monitoring and awareness generation. They suggested that reducing examination fees could enhance access and participation in MOOCs. In support of the argument, participants stated that:

*"In my opinion, offering mentorship or guidance from instructors can improve the learning experience. This can involve providing personalized support and feedback to learners through virtual office hours, one-on-one consultations, and mentoring programs, which can help learners navigate their learning journey more effectively"* (**sc4***)*.

*"Continuous monitoring and awareness generation are considered essential for the successful implementation of MOOCs in higher education institutions. The mention of examination fees being a major problem suggests that reducing these fees could enhance access and participation in MOOCs"* (**sc6***)*.

*"Proper monitoring and support from teachers are deemed necessary for the successful implementation of MOOCs. This underscores the importance of ongoing support and guidance for learners in the online learning environment"* (**sc7***)*.

**Monitoring and awareness**

Offering mentorship from instructors improved the learning experience by providing personalized support and feedback through virtual office hours, one-on-one consultations, and mentoring programs. SWAYAM coordinators also emphasized the need for continuous monitoring and awareness generation. They suggested that reducing examination fees could enhance access and participation in MOOCs. One of the respondents noted that-

*"Providing consistent feedback and support to students is essential for keeping them motivated and focused on their learning objectives. This involves giving feedback on assignments, quizzes, and exams, and offering support through online forums, office hours, and other communication channels"* (**sc1***).*

## Inclusive policy

The SWAYAM coordinator highlights the policy development for MOOCs by SWAYAM. The participant commented that-

*"The policy development for MOOCs by SWAYAM is characterized as simultaneously exclusive and inclusive. This assertion implies effectiveness and cooperation within the policy, reflecting a favourable stance towards coordinating and managing MOOCs."* (**sc3***).*

## MOOCs facilitators

The participant recommended assigning proficient facilitators to provide assistance and direction to participants in the MOOCs program. This enhanced the learning experience and provided valuable guidance to learners.

*"* It is recommended to assign proficient facilitators for MOOCs to provide assistance and direction to participants in the MOOCs program.*"* (**sc2***).*

## Courses in regional languages

The study's participants elaborated that SWAYAM offering courses in multiple languages, improved accessibility and inclusivity in MOOCs, making them more relevant and engaging for learners from diverse linguistic backgrounds. This approach underscored the significance of language diversity in MOOCs for reaching learners from various linguistic backgrounds. The participants commented that-

*"There is a need to introduce courses in regional languages to cater to a wider audience.' This can improve accessibility and inclusivity in MOOCs, making them more relevant and engaging for learners from diverse linguistic backgrounds"* (**sc9***).*

*"Offering courses in multiple languages would make the platform more accessible to a wider audience.' This highlights the significance of language diversity in MOOCs for reaching* learners from various linguistic backgrounds" **(sc1)**.
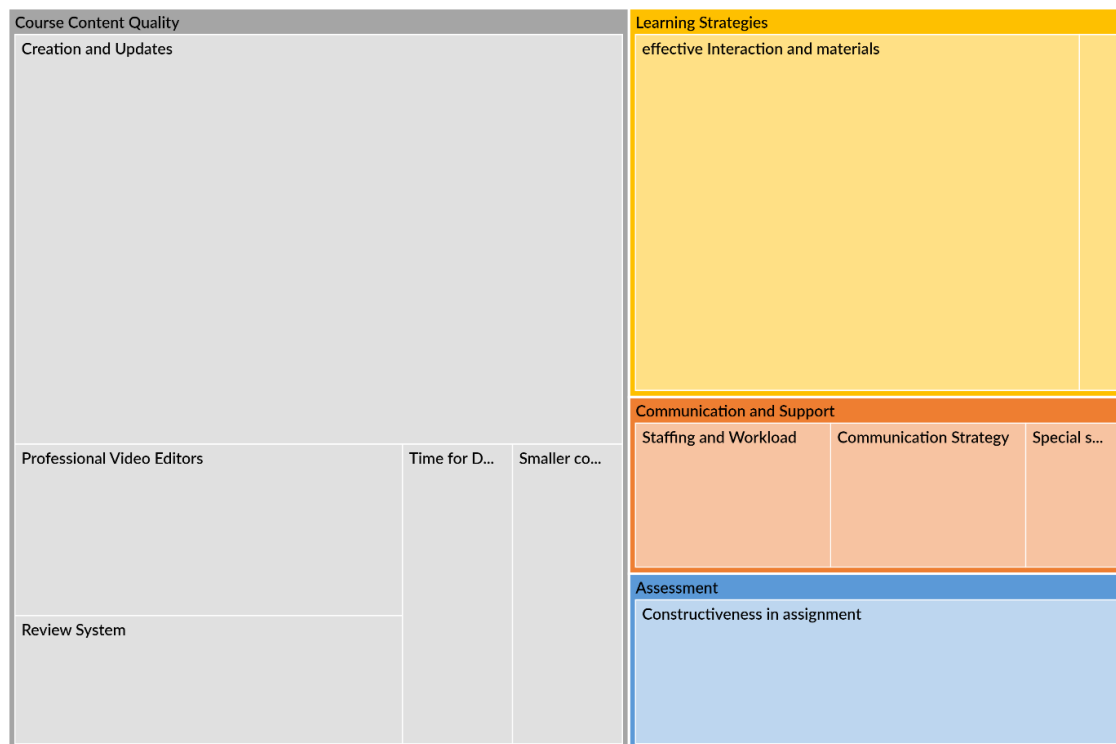
### 4.5.3   SWAYAM Course Coordinators' Suggestions on MOOCs

Based on the suggestions of SWAYAM course coordinators, MOOCs can be improved by enhancing learner engagement through interactive elements such as quizzes, assignments, and discussion forums. They also recommend incorporating real-world examples and case studies to make the content more relevant and practical. Furthermore, course coordinators suggest providing ample opportunities for peer interaction and feedback to foster a sense of community among learners. Regularly updating course content to reflect the latest trends and research is also emphasized to keep the material current and engaging. The suggestions were presented through themes and sub-themes that emerged from the collected data (Figure 4.5.6). The following are discussed below.

**Figure. 4.5.5  Subcodes of the main theme "challenges" emerged from the interview Transcript**

**Figure 4.5.6 Representing the theme and sub-themes that emerged from the data through a tree-map chart**



### 4.5.3.1 SWAYAM course coordinator's Suggestions Regarding Assessment Constructiveness in assignment

The findings emphasized the crucial importance of promoting active participation, establishing comprehensive support systems, cultivating conducive settings, and designing efficient communication strategies in MOOCs. Efforts such as frequent live sessions and discussion boards fostered a feeling of belonging and enhanced educational experiences. In contrast, a variety of support channels, such as email and live chat, guaranteed prompt help for learners. Some of the participants opined:

*"Offering timely and constructive feedback on assignments and assessments is crucial for supporting student learning. This feedback should be specific, actionable, and geared towards helping students enhance their performance"***(scc1).**

*"Providing timely and constructive feedback on assignments and assessments is crucial for supporting student learning and improvement."* **(scc2).**

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*"It's crucial to provide clear, concise instructions for all assignments and assessments. By clearly outlining expectations and grading criteria, we can prevent confusion and help learners remain focused on their learning objectives."* **(scc4).**

*"I believe that providing various assessment formats is essential. This includes offering a mix of assessment types to accommodate different learning styles and preferences. "* **(scc7).**

*"* Increasing participation between students and course coordinators can significantly improve the learning experience. *This can be achieved through regular discussion forums, live Q&A sessions, and interactive assignments."* **(scc8).**

*"Ensuring the consistency of end-term tests is essential for ensuring academic integrity and conducting a fair assessment of student learning. This necessitates careful scheduling and monitoring to avoid disruptions and ensure that every student has an equal chance to showcase their knowledge."* **(scc13).**

### 4.5.3.2  SWAYAM course coordinator's Suggestions Regarding Communication and Support

**Communication Strategy**

The findings emphasized the crucial importance of promoting active participation, establishing comprehensive support systems, cultivating conducive settings, and designing efficient communication strategies in MOOCs. Efforts such as frequent live sessions and discussion boards fostered a feeling of belonging and enhanced educational experiences. In contrast, a variety of support channels, such as email and live chat, guaranteed prompt help for learners. Some of the participants opined:

*"Facilitating more engagement between students and the course coordinator is essential. This can be achieved by organizing regular live sessions, Q&A forums, and discussion boards. These platforms allow students to interact not only with the course coordinator but also with their peers, creating a sense of community and enriching the learning experience."* **(scc1).**

*"Learners should be encouraged to seek assistance from instructors or support staff. Providing multiple channels for help, such as email, discussion forums, and live chat, ensures that they receive timely support when needed."* **(scc5).**

*"It's crucial to create a supportive environment that encourages learners to participate in discussions and debates. This includes fostering a space where they feel comfortable sharing their opinions, challenging ideas, and engaging in meaningful dialogue."* **(scc10).**

*" Developing an effective communication plan is crucial, especially for students in remote areas like mine. This strategy should include clear guidelines on course expectations, timely feedback on assignments, and regular updates on course progress. Local chapters could act as a bridge between students and the institution, offering support and guidance tailored to our local needs."* **(scc11).**

**Special support**

The finding highlighted the significance of inclusive access in MOOCs, emphasizing the necessity of assisting students with disabilities through accessible resources, assistive technologies, and support services. It also highlighted that all learners had equal educational opportunities and were fully engaged in the learning process.

One of the participants made an Item that.*" Providing additional assistance and resources for students with impairments is essential to ensure their complete engagement in courses. This support can include accessible course materials, assistive technologies, and support services, ensuring that all learners have equal access to education."* **(scc1).**

**Staffing and workload**

The findings emphasized the importance of adequate staffing and workload management in MOOCs to ensure effective course functioning and the creation of high-quality content. Having a sufficient number of staff members, including highly trained teachers and support staff, was crucial for effectively handling the workload. Some of the SWAYAM course coordinators had mentioned this.

*"Ensuring an adequate number of experts is essential for the efficient functioning of MOOC courses. Engaging an adequate number of qualified staff members, such as course instructors and support personnel, ensures that the workload is manageable and that students receive the necessary support and guidance."* **(scc4).**

*"I believe that proper staffing and workload management is crucial. Having enough staff dedicated to course development and relieving them from other duties allows them to focus on creating high-quality courses. This dedication ensures that students receive the support and guidance they need to succeed in their studies."* **(scc7).**

### 4.5.3.3 SWAYAM Course Coordinator's Suggestions Regarding Course Content Quality

**Creation and Updates**

The findings highlighted the significance of continually updating course content to preserve its relevance and quality. This also entailed integrating novel concepts, seeking guidance from reliable sources, coherently structuring information, guaranteeing cultural awareness, and actively seeking input from students to enhance the course. In addition, the exploration of innovative approaches for course design and the integration of interactive components augmented engagement and interaction, which were crucial to enhancing the learning experience for students. Frequent updates not only ensured that the content remained up-to-date but also enabled the incorporation of new technology and teaching methods, resulting in more captivating and instructive courses. However, some of the supported comments from the SWAYAM course coordinator were:

*"Making new courses and updating old ones keeps the content fresh and relevant. It also helps us include new ideas and best ways to do things.'"* **(scc1).**

*"Consulting quality textbooks and reference books can assist in ensuring that the course content maintains accuracy, stays current, and remains aligned with established knowledge in the respective field.'"* **(scc2).**

*"Organizing course content logically and presenting it coherently is crucial for helping learners understand the material better. This involves clearly defining learning objectives and outcomes for each module or section of the course."* **(scc3).**

*"It is crucial to ensure that course content is culturally sensitive and inclusive of diverse student backgrounds and perspectives. This approach is essential for creating an inclusive learning environment."* **(scc4).**

*"It is essential to get input from students on the content and structure of the course, and utilizing this feedback for future course enhancements is crucial for ensuring that the course aligns with the needs and expectations of learners."* **(scc5).**

*"I believe it's essential to create new courses and update existing content regularly to ensure their relevance and currency."* **(scc6).**

*"It is crucial to regularly update course content to include new developments and keep it relevant."* **(scc7).**

*" Exploring innovative approaches to course design can enhance the engagement and interactivity of the curriculum."* **(scc8).**

*"I believe that consulting quality textbooks and reference books is essential to ensure that the course content is comprehensive and accurate."* **(scc9).**

*"It is crucial to organize course content logically and present it coherently to make learning and understanding easier."* **(scc10).**

*"It is crucial to make sure that the course content is culturally sensitive and inclusive of diverse student backgrounds and perspectives. This can be achieved by incorporating examples, case studies, and references that reflect a wide range of cultural experiences and viewpoints."* **(scc11).**

*" Regularly modifying and updating courses is crucial. This ensures that the content stays relevant and current, and it allows for the integration of new technologies, teaching strategies, and research findings. These updates keep the courses engaging and informative for learners."* **(scc12).**

*" Soliciting student feedback on the content and organization of the course. This feedback can be invaluable for making improvements in future courses, ensuring that they meet the needs and expectations of learners."* **(scc13).**

*"Course materials must be interactive and engaging, which can greatly enhance learner interest and motivation. This can be achieved by incorporating multimedia elements, interactive quizzes, and simulations, which make the learning experience more immersive and enjoyable."* **(scc14).**

**Professional Video Editors**

The SWAYAM course coordinators strongly believed in the pivotal role of experienced video editors in improving the quality of course, videos by making them visually attractive and captivating and sustaining learner engagement. Furthermore, there was widespread agreement about the significance of shorter video lengths and improved editing methods to enhance the ease of understanding and maintain the interest of learners. Some of the SWAYAM course coordinators had mentioned this as:

*"Having professional video editors can make course videos much better. They can make sure the videos look good, are interesting to watch, and keep learners interested."*(**scc4**).

*"Shorter videos and better editing can keep learners interested. We need to make sure videos are short, easy to follow, and look good."*(**scc5**).

*"It's important to allocate enough time for developing courses and to have professional video editors available to improve the quality of video content."* (**scc7**).

*"Using shorter video durations and employing better editing techniques can enhance engagement and improve the clarity of content."* (**scc11**).

**Review System**

The research findings highlight the crucial need for a robust review mechanism to guarantee the quality and pertinence of course content in MOOCs. Some of the SWAYAM course coordinators have mentioned this as:

*"Using a strong review system with anonymous reviewers and course coordinators at all levels makes sure the content is really good. It also helps to use feedback to make the course better in the future."* (**scc1**).

*"I believe that implementing a comprehensive review process for course content, which includes evaluations from peers and experts, is crucial. This process helps to ensure that the content meets high-quality standards, is accurate, and remains up-to-date."* (**scc6**).

*"It's essential to have a strong system in place for reviewing course content. This should involve anonymous reviewers and course coordinators at every level, similar to what is done in NPTEL MOOCs."* **(scc10).**

*"Implementing a comprehensive review process for course content, which includes evaluations by peers and experts, is essential to maintain the quality and accuracy of the material."* **(scc12).**

## Smaller Course Modules

The research findings emphasize that dividing the course content into smaller parts improves learner understanding as well as recall by promoting organization and ease of access. The participants commented that

*"Splitting up course stuff into smaller parts can help learners understand it better. This way, it's easier to organize and find what you need.'"* **(scc9).**

*"Breaking the course content into smaller modules can help improve understanding and retention among learners."* **(scc12).**

## Time for Development

By allocating a sufficient duration of time for course creation, producers were able to concentrate on creating content of exceptional quality without feeling rushed. This allowed for a thorough assessment and improvement of course contents. In addition, having an adequate amount of time enabled the participation of specialists who could enhance the caliber of course videos, thereby contributing to a more refined and captivating learning experience. Some of the SWAYAM course coordinators had mentioned this as:

*"Giving enough time for making courses means the people making them can concentrate on making really good stuff without having to hurry. It also lets them go over the course material carefully and make it better"* **(scc1).**

*"Make sure there's plenty of time to work on courses and have experts who can make videos look better."* **(scc7).**

### 4.5.3.4 SWAYAM Course Coordinator's Suggestions Regarding Learning Strategies

**Effective Interaction and Materials**

The research findings highlight the crucial importance of good interaction and extra resources in improving learning experiences. Offering resources such as readings, case studies, articles, and webinars enriches learning opportunities and provides depth to course content, fostering a profound comprehension of the subject matter. Moreover, creating avenues for learners to engage with field experts through guest lectures, panel discussions, and virtual networking events offers valuable industry insights beyond the course material, enriching the learning experience. Some of the SWAYAM course coordinators have mentioned this as:

*"Offering supplementary resources such as readings, case studies, and webinars can augment learning opportunities and furnish added depth to the course content."* **(scc2).**
*"Providing supplementary materials such as articles, real-life examples, and seminars may enrich educational experiences and foster a more profound comprehension."* **(scc4).**

*"I believe that facilitating interaction among peers and offering supplementary materials are key. This can be achieved by encouraging collaborative learning through group projects, peer feedback, and discussion forums. Moreover, providing additional resources such as articles, case studies, and webinars can help deepen understanding."* **(scc6).**

*"It's essential to create opportunities for learners to engage with field experts. This can be done by organizing guest lectures, panel discussions, or virtual networking events. These activities can provide learners with industry insights and perspectives that go beyond the course material."* **(scc7).**

*" Providing chances for peer-to-peer contact and cooperation may greatly improve the learning experience. Engaging in activities like as group projects, peer evaluations, and collaborative learning can facilitate the acquisition of key skills by allowing students to learn from one another."* **(scc14).**

**Engagement**

Utilizing a diverse range of media types, such as videos, audio snippets, infographics, and interactive simulations, can effectively increase learner engagement throughout the course, accommodating various learning styles. By offering multiple avenues for interaction and exploration, this strategy ensures sustained engagement and enhances the overall learning experience for students. One of the participants made a statement that.

*" Increasing learner engagement may be accomplished by utilizing a diverse range of media types, including videos, audio snippets, infographics, and interactive simulations. This strategy accommodates various learning styles and effectively maintains learners' engagement throughout the course."* **(scc5)**