e-SHE ANNUAL MONITORING REPORT

February 2024, Addis Ababa

In partnership with

mastercard foundation

ASU

SYS SHAYASHONE

FOREWORD

In the last couple of decades, Ethiopia has experienced strong economic growth. However, the labor market has remained relatively stagnant, leading to a lack of sustainable employment opportunities for the growing youth population. The Ethiopian government has prioritized the creation of sustainable jobs for young people and has made significant investments in the education sector, resulting in the establishment of numerous schools and universities. Despite this progress, there are concerns that the quality of education is not fully meeting the needs of various industries. Graduates from higher educational institutes need to be equipped with the skills that prepare them for the labor market and entrepreneurship.

e-Learning for Strengthening Higher Education (e-SHE) was initiated by the Ministry of Education (MoE) in collaboration with the Mastercard Foundation and is currently being implemented at fifty public universities across the country by Arizona State University and Shayashone. Through this partnership, we aim to enhance the skills of university graduates and assist them in becoming prepared for employment and entrepreneurship by changing the higher education system with the aid of technology and appropriate policy.

This partnership has completed or is in the process of completing most of the initial interventions. The remaining issues are focused on reaching a broad audience of students and instructors and providing training that will prepare them for utilizing digital education technology and changing the teaching-learning process. This report has been prepared based upon the results of regular monitoring and evaluation efforts, a user experience survey, and a series of discussions with implementing universities to gain additional insights into what went well during our 2023 implementation and what needs to be considered for the year 2024.

Going forward, a deeper understanding of the impact of the initiative and stronger engagement in the leadership and execution of e-SHE standout to be a critical success factor. The e-SHE initiative requires system changes both at national and institutional levels. While we celebrate the achievement that the national higher education digitization and implementation guidelines policies are designed, developed, and approved with the support of this partnership, it is time for the top leadership of the participating universities to embrace the agenda, adopt the policy into university strategies and senate legislation, and lead the execution of the program. To facilitate this, the e-SHE partnership has evolved from providing centralized support to the universities to backstopping while universities lead the implementation themselves.

As the feedback from the instructors and the students from the participant universities indicate, university management has not been providing sufficient support for them during the course of their engagement in the two packages of training that have been provided by this program. Moreover, the issue of access to the internet, the quality of the internet, and the cost of the internet have emerged as one of the most critical challenges facing both instructors and students. Therefore, I call upon the partners to focus on addressing this challenge as we proceed further in reaching a more number of instructors and students.

University-led implementation, empowerment of university personnel to manage and administer the eLearning platform, to utilize the established eLearning resource centers, and to utilize the two model digital courses are identified to be focused on by partners.

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e-SHE JOURNEY TO IMPACT : OVERALL FRAMEWORK

1.1 About e-SHE

The “e-Learning and Digital Skill Development for Tertiary Education Partnership” which is also known as the “e-Learning for Strengthening Higher Education (e-SHE) has been launched to improve tertiary education by leveraging digital technology for teaching and learning and to equip young graduates with necessary skills and knowledge that is required for employment and entrepreneurship. The program runs from April 2022 to April 2027 and was designed to achieve two major outcomes:

Outcome1. Enhanced access to digital teaching and learning platforms.

Outcome2. Produce employable and entrepreneurial higher education graduates.

One of the five multimedia studios established through the e-SHE program

The journey towards the two outcomes start with the following areas of program implementation:

1. Upgrading/customizing digital platforms (i.e., Learning Management System – LMS and Student Information System – SIS) and making these platforms accessible to 50 public universities.
2. Developing human capacity through training 35,000 teachers, 800,000 students, and 100 IT support staff to enable target universities to utilize the e-learning platforms to be offered through this program.
3. Establishing e-learning resource centers in five universities and training the staff to be assigned to run the resource centers so that the host universities will be able to produce digital course content.
4. Producing model digital course content for two freshman courses and sharing them for utilization by the fifty universities.
5. Developing an enabling policy and guideline for the digitization of higher education and supporting the implementation of the policy.

These interventions indicate that the program focuses on supporting the sustainable utilization and institutionalization of the practices of applying educational technology in the higher education system and enforcing this with an appropriate policy. In addition, This program has human capacity development targets designed for instructors and students at the targeted universities. Arizona State University (ASU) and Shayashone (SYS) PLC have partnered with the Ministry of Education (MoE) and the Mastercard Foundation (the Foundation) to implement the program in collaboration with fifty public universities in Ethiopia.

The underlying logic is that through the development of the capacity of (1) instructors in the areas of instructional design and excellence in teaching online, (2) IT support staff in administering the e-learning platforms and providing support services to users, and (3) students in how to succeed in e-learning; and with the utilization of digital course content production resource centers and model digital courses, universities will be enabled to enhance the quality of education and equip young graduates with the skills and knowledge required to employment and entrepreneurship.

1.2 e-SHE Partners and Thematic Leads

Arizona State University (ASU) is responsible for the customization and delivery of the e- learning platforms while Shayashone (SYS) PLC takes the lead in preparing the policy, establishing the resource centers, and developing model digital courses. Once these tasks are completed by ASU and SYS, the universities under the leadership of MoE are expected to cascade human capacity development and institutionalize digital education. The following table presents program interventions, components, and the responsible partner.

Theme / Intervention	Component	Lead
e-Learning Platform	LMS + SIS	ASU
Human Capacity Development	Instructor ToTs (Certified MCT Trainers)	ASU
	IT support staff t raining (Certified System Admins)	ASU
	Instructional designer training (Graduate Certificate)	ASU
	Content for Cascading Instructor and Student Training	ASU
	Cascading Instructor Training (MCT)	Universities (MoE)
	Training Students in SSS	Universities (MoE)
Resource Center Establishment	Building Five Digital Multimedia Studio	SYS
Developing Digital Model Courses	Developing Two Digital Model Digital Courses (Mathematics and Emerging Technologies)	SYS
Policy Development (Institutionalization)	Supporting the Development, Approval, and Adoption by the Universities	SYS

Table 1. e-SHE Thematic Areas and Leads

As outlined in the table above, the human capacity development that targets instructors has two stages (1) enabling trainers (ToTs) who will cascade the excellence in teaching online (also called the Masterclass Training – MCT) and instructional designers through a Graduate Certificate Training (GCT), which is the responsibility of ASU, and (2) cascading the MCT, which is the responsibility of MoE and universities. ASU is also responsible for IT support staff training. The establishment of resource centers and model digital courses are the responsibilities of SYS.

1.3 Major Achievements

The e-SHE local team, which is led by SYS, has been working since August 2022 to support universities get the capacity that enables them to lead the program implementation. On the other hand, ASU has been working towards upgrading an e-learning platform and making it accessible for universities in addition to training the instructors.

The efforts made so far by the local e-SHE team and the ASU team resulted in

(1) the development and approval of higher education digitization policies,
(2) the establishment of 5 resource centers,
(3) the production of two model digital courses,
(4) the provision of access to the Masterclass Training (MCT) for all fifty universities,
(5) the provision of access to a customized microsite of the e-learning platform for 43 universities; some of which started to provide tailored training to their students called the “Student Success Suit (SSS)”,
(6) the certification of 60 instructors ToTs from 29 universities,
(7) the deployment of certified ToTs to cascade MCTs, and
(8) the training of 32 instructional designers through a “Graduate Certificate Training (GCT)” program.

The anticipated outcomes of these efforts and achievements can only be realized if targeted universities utilize what is offered by the program and start changing their systems of teaching and learning. This requires universities to

(1) utilize educational technologies that are being provided by the program,
(2) deploy the staff that are trained through the program and
(3) enhance the quality of education in a way that effectively prepares graduates for employment and entrepreneurship. Therefore, the efforts and results of the program must be gauged at the target university level based on facts that are emic to the university context.

Instrumental to the implementation of the overall program interventions at each university level are the human capacity development efforts. Training of the instructors is done with the anticipation of subsequent teaching practice change; students are also expected to adopt digital learning with the help of the SSS training. Therefore, a scrutiny of the human development trajectory made so far and identification of the challenges, priorities, and any other contextual issues of instructors and students; and fixing the identified problems and challenges helps program implementation be more effective. A cross-sectional survey is done to gain insights from students and instructors in the participant universities.

1.4 Purpose and Structure of the Report

This report aims to present important information on basic facts, challenges, priorities, and the progress made so far in the partnership. It is designed to provide partners and stakeholders with essential facts and figures that can help them comprehend the situation and make informed decisions and actions accordingly.

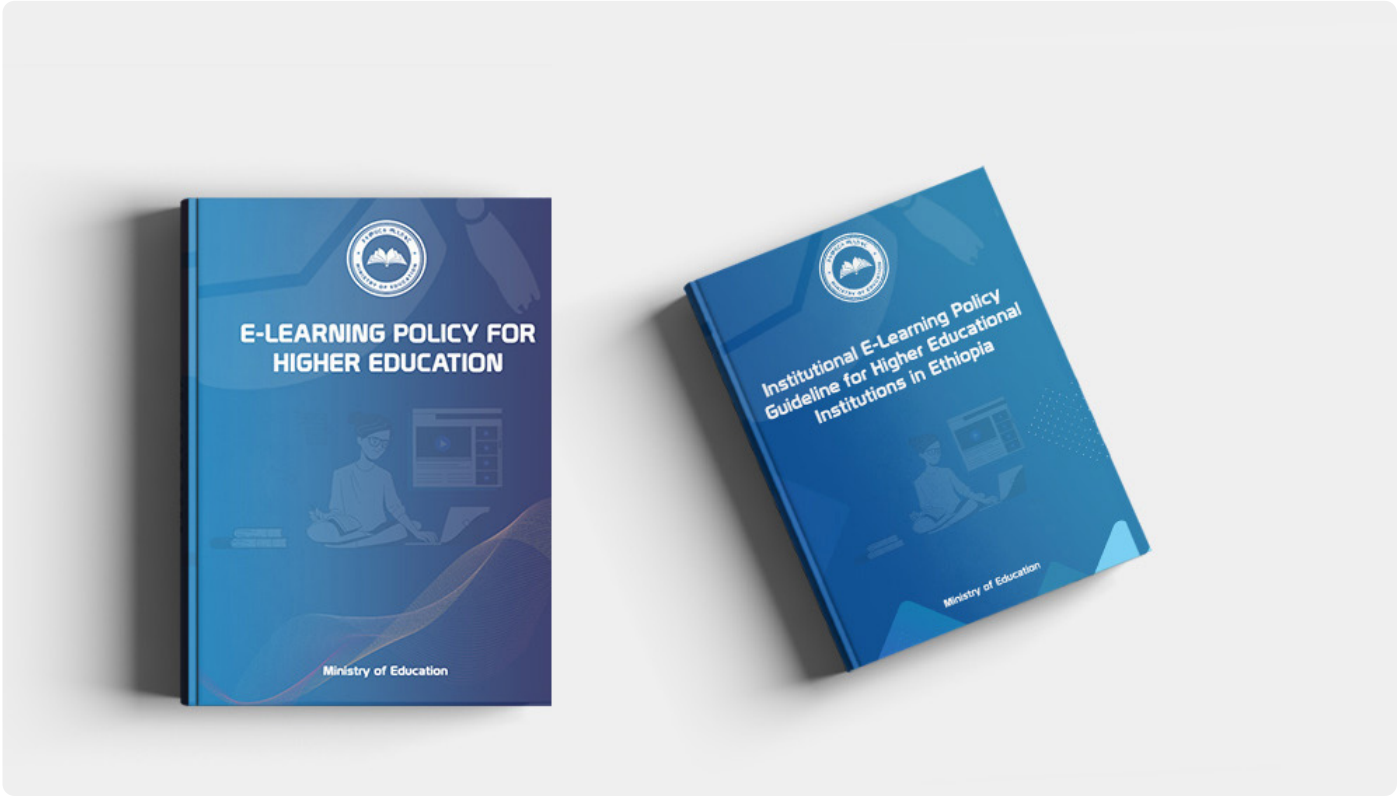
The first section of the report lays its foundations for the overall journey to impact. The second section deals with key recommendations (implications) for partners. The last section contains the results of an annual monitoring survey that focuses mainly on the human development theme as of 2023.

02

KEY LESSONS LEARNED AND WAYS FORWARD

2.1 Key Lessons Learned

Throughout the implementation process of e-SHE, valuable lessons have surfaced. Some of these lessons that are of key importance for program success are
(1) The interdependence of interventions and results,
(2) The need for harmonization of planning, reporting, monitoring, and evaluation,
(3) The urgency of launching university-led execution,
(4) The importance of university leadership engagement, and
(5) Addressing issues proactively.



Interdependence of Interventions and Results

This partnership strives to achieve the two outcomes as explained in the previous section. Therefore, the implementation process mainly unpacks key milestones passing through two paths. The journey toward the first outcome (i.e., access to the e-learning platform) passes through (1) upgrading (customizing) the platform, (2) deploying and testing the platform, (3) training system administrators and users and (4) providing platform access to the user universities. Then, the user universities are expected to utilize the platform and start university-led processes.

The journey to the second outcome (i.e., producing employable and entrepreneurial graduates) follows the path through improved skills and increased capacity of higher education teachers to design instructions and content and use it in an e-learning platform; and improved digital skills of learners to utilize the e-learning platform which will advance their learning experience. To realize these, (1) instructor ToTs must be trained and deployed to cascade MCT, (2) instructional designers must be trained and deployed to develop digital course contents, (3) digital course contents must be developed through the utilization of trained instructors, model digital courses and resource centers, (4) instructors must be trained in MCT, (5) students must be trained in SSS, and (6) instructors must be able to offer digital courses for their students. Then universities are expected to change their systems and practices of teaching and learning.

Harmonization of Planning, Reporting, Monitoring, and Evaluation

The outcomes of this partnership will be realized when universities can (1) utilize digital platforms, (2) develop digital content, and (3) launch a digital educational program. Prior to these deliveries, ASU, the local e-SHE team, and the universities themselves must deliver key outputs. With the help of a harmonized plan, the three parties are required to collaborate and synchronize their efforts.

For example, the plan for cascading instructors' training should be consistent with the plan for TOT training; because, in the absence of trainers with the required number, the targets to cascade instructor training cannot be realized. The plan for configuring microsites for each university determines the number of universities where students' training and digital education can be launched.

The reporting, monitoring, and evaluation processes should also be harmonized to facilitate collaboration and smooth communication among the parties and to ensure the achievement of the overall targets of the program within the stipulated timeframe.

Urgency of University-led Process Execution

The implementation of the program interventions has been primarily based on a centralized execution of tasks by ASU and the local e-SHE team. What has been implemented by the two parties, however, was supposed to have been done by the target universities. If this implementation approach continues, it is likely that the instructor and student outreach targets will not be achieved within the project's lifetime. The centralized implementation approach will also have negative effects on the overall achievement of the two key outcomes of the partnership. It is therefore imperative that all parties should understand the urgency of embarking on university-led implementation.

Going forward, universities should take the lead in implementing program activities while ASU and the local e-SHE team backstop and exert more efforts on empowering the universities. This facilitates ownership and institutionalization by universities. These strategies are key for sustainability. A fast-tracking delivery of access to and control of the e-learning platform microsites with university domains appears critical to reverse the centralization of these tasks and replace them with a university-led execution. This method is key for accelerating the program implementation and

University Leadership Engagement

The e-SHE program's implementation requires system changes in higher education institutions. This cannot be achieved without the sponsorship of top leadership. This should be done sooner than later. Through early onboarding of the universities, the other program implementors can better understand their needs and priorities and provide them with more appropriate services. As this early engagement and empowerment is delayed, there will be no sufficient time to (1)give universities the opportunity to familiarize themselves with the changes while at the same time getting backstopping from program implementors, and (2) meet program targets within the anticipated time.

Universities have established systems and structures to follow up on the progress of their staff and students in the training instead of ASU and the e-SHE team executing this remotely. If the program puts strong reinforcement support on each university to ensure that the university institutionalizes and mainstreams the changes that are provoked by the e-SHE initiative, there will be a more efficient and sustained outcome.

Being Proactive in Addressing Issues

Partners need to be proactive in addressing issues that need their attention. The presence of high sequential interdependence among key deliverables and the number of implementing partners (i.e., ASU, local e-SHE team, and fifty universities) makes the implementation environment complex. It is very critical to be proactive in addressing issues, especially those that require the collaboration of different parties.

2.2 Priorities for 2024

There was a series of discussions among partners to set the 2024 priorities. The key priorities for each thematic area are set taking into account what has been achieved so far, the anticipated delivery cadence that is set based on overall outreach targets and university readiness, and the feedback gathered from partners.

The priorities that are highlighted below are sought to serve as a starting point for partners to backstop universities and for universities to understand the overall targets from which their shares were cascaded.

1. Policy and Institutionalization

The higher education digitization policies are developed with the support of the program and approved by the MoE. The MoE is now in the process of ratifying a directive that reinforces the implementation of digital education in higher educational institutions. The project team has also been providing support in this process. The priority for 2024 in this theme is to:

a. Support the target universities in the adoption process of the higher education digitization policy and institutionalization.

2. Establishment of Resource Centers

The establishment of five resource centers (digital multimedia studios) is nearly completed by the end of 2023. The remaining tasks for 2024 include:

a. Commissiong the resource centers
b. Developing resource center sharing modalities among universities
c. Supporting the utilization of the resource centers

3. Human Capacity Development

This theme focuses on instructor and student training. For the year 2024, the program will focus on the development of trainers (ToTs) and scaling up the training. The following are the specific targets:

a. ASU will train 35 instructors in the GCT

b. ASU will train 131 instructors in the instructor ToTs

c. ASU will train 100 IT support staff who will provide support to their respective university and cascade the training within their university

d. Universities will deploy certified ToTs to train 11,989 instructors in the MCT

e. Universities will utilize their e-learning platform microsites to train 120,000 students in SSS

The e-Learning Platform

As ASU finishes the microsite configuration of the e-learning platform for target universities, the target universities should plan for large-scale utilization of the platform. Through the platform, universities should avail digital content, assign staff, enroll trainees and students, and offer training and education. The specific priorities for 2024 include:

a. ASU provides access to and control of the microsites to the respective universities so they will be empowered to execute the aforementioned roles.

b. The local e-SHE team will

i. Collaborate with ASU and test the finalization of the customization of the e-learning platform
ii. Follow up with ASU in its process of creating an e-learning platform access for 45 universities
iii. Collaborate with ASU and universities to ensure that user access is created for 11,989 instructors following the readiness of the microsites
iv. Collaborate with ASU and universities to ensure that user access is created for 120,000 students following the readiness of the microsites

03

ANNUAL MONITORING SURVEY (2023)

3.1 Summary of Key Findings

This annual monitoring report provides an overview of the feedback received from students and instructors regarding implementing the e-SHE programs over the year 2023. 1054 instructors and 1349 students from 14 universities participated in providing the feedback. The report highlights the challenges and priorities identified based on data gathered from instructors and students through a survey and provides recommendations for program implementation. The key findings include :

Student's Feedback:

- Students expressed motivation and readiness to learn through online mode of delivery.
- The majority of students believed that e-learning has numerous advantages, including selfdirected learning, flexibility in scheduling, and exposure to digital tools and resources.
- Students were willing to recommend the training to their peers, indicating a positive disposition towards e-learning.
- The main challenges faced by students were internet connectivity problems, financial constraints, time management, and lack of online learning experience.
- More than 70% of the students view that they are ready for employment and entrepreneurship with an average rating of 3.93 on a five-point scale.
- More than 75% of the participant students believe they can access work opportunities with an average rating of 3.81 on a five-point scale.

Instructors Feedback :

- Instructors showed motivation and readiness to engage in online teaching and learning.
- Lack of internet connectivity, time allocation problems, lack of access to devices, and lack of online teaching experience were identified as the main challenges faced by instructors.
- The completion rate of the Master Class Training (MCT) was low, with internet connectivity problems and time shortage being the primary reasons in addition to the lack of technical support services.

Implications for Program Implementation:

- Instructors and students in target universities identified several challenges in participating in the program interventions. Most of these challenges indicate the lack of university engagement in the program implementation. Therefore, universities should:
  - Mainstream e-SHE into their plans
  - Lead the process of implementing e-SHE interventions
  - Address the needs and priorities of instructors and students by identifying the diversities among their student and instructor populations based
- As most of the output-level results have been achieved, the focus should be shifted toward realizing the outcome-level results. This shift requires all partners to be on the same page. Therefore, all partners and stakeholders should base their execution activities on:
  - A harmonized planning, reporting, monitoring, and evaluation system
- Arizona State University (ASU) should have a plan (i.e., university-level rollout schedule) to enable universities to start university-led implementation and provide training and support to the ICT support team at each university. As such the role of ASU should be:
  - Speed up the localization process; provide the technology and technical support
  - Backstop university personnel during utilization of the e-learning platform
  - Support the cascading of human capacity development
- The local project implementation team should create an enabling environment in each university, engage top management, and establish a team to coordinate the implementation of the program. Specifically, the local team should:
  - Backstop universities during implementation and avoid executing tasks at the university level
  - Support the Ministry and the universities in the preparation of a performance management system
- The Foundation should oversee the collaboration between ASU and the local e-SHE team and support integrating their efforts.
- The Ministry of Education should address internet connectivity issues, direct universities towards adopting strategies and policies that foster e-learning, and allocate resources to enhance the quality of digital education. In addition, the Ministry should:
  - Set key performance indicators for universities
  - Ensure that universities set appropriate targets for each thematic area of e-SHE.
  - Track the performance of each university based on the plan

Overall, the feedback from students and instructors highlights the importance of addressing internet connectivity problems, providing technical support, and creating an enabling environment for the successful implementation of the e-SHE program. To ensure success, it is important to address these challenges and provide support to students and instructors. Collaboration between universities, the Arizona State University team, the local project implementation team, and the Foundation is crucial.

3.2 Introduction

Since the commencement of the program, ASU and the local e-SHE team have been exerting efforts to execute the program interventions. As explained in the previous section, these efforts were predominantly centrally led though universities have also been collaborating. Besides human capacity development, all other thematic areas were completed or nearly completed. The human capacity development theme targets instructors and students in the participant universities. Therefore, as we go forward, the efforts and results of the program must be gauged at the target university level based on facts that are emic to the university context.

Human capacity development is an important component of the overall program interventions at each university level. The training of instructors is conducted with an expectation of subsequent changes in teaching practice; students are also expected to adapt to digital learning following SSS training. Therefore, examining the human development trajectory, identifying challenges, priorities, and other contextual issues of instructors and students, and addressing the identified problems and challenges will help program implementation be more effective. A cross-sectional survey is done to gain insights from students and instructors in the participant universities and incorporate them into future operational plans and execution approaches.

3.3 Scope and Focus

This report is based on the analysis of data collected from fourteen universities in Ethiopia. There are two categories of participant universities: resource center universities and other universities. To capture the maximum variation in university types, all five resource center universities and nine other universities were included in the list of participating universities. Ideally, a representation of the fifty public universities involved in the partnership will be made in the report to confine its implications to those universities. The list of participant universities is presented in Table 1.

The data capture the context and experience of e-SHE partner universities up to the end of 2023. The challenges faced by or would be potentially faced by students and instructors in partner universities, the experiences of students and instructors in taking online courses that have been provided by the e-SHE program, and the views of students on their readiness for employment and ability for accessing job opportunities are assessed. Descriptions and conclusions are delimited to the purpose of implementing the e-SHE initiative.

3.4 Method

3.4.1 Description of the Population and Participant Selection Method

There are two populations mainly – student and teacher populations. These two populations represent the program's main outreach in the fifty public universities that are targeted by this partnership. Some of the teachers and students in the targeted universities were reached through the program's capacity-building efforts made so far. Therefore, the population is divided into those who have been reached through the program and those who have not been reached.

To select the participants, a multi-stage sampling approach was employed. In the first stage, universities were categorized as resource center universities and other universities. The plan was to reach five resource center universities and ten other universities. To achieve this, the 50 universities were contacted to participate in the survey. As a result, all five resource center universities and nine other universities became willing/ready to participate in the survey.

From each participant university, it was planned to draw a sample of at least 70 students and 70 instructors. The actual number of instructors and students who responded to the questionnaires is summarized in Table 1. As can be seen in Table 1, the number of participants who responded to the Student Feedback Form 002 (STU 002) was only two universities because, by the time of data collection, the SSS training was accessible in four universities.

In the second stage, we selected participant instructors and students from the universities on the list through the e-learning coordinators of their respective universities in a way that ensured the inclusion of those who participated in the e-SHE training programs and those who did not participate. Besides, among those who participated in the training, we purposively included those who completed the training and those who did not. We gave a detailed orientation to the coordinators and enumerators to help them understand the second stage of participant selection.

Name of University	Total Number of Instructors (INS 001)	Total Number of Students (STU 001)	Total Number of Students (STU 001)
Addis Ababa University	138	216	0
Ambo University	33	65	0
Arbaminch University	48	76	0
Bahirdar University	63	3	0
Borana University	63	63	0
Ethiopian Civil Service University	68	83	0
Dilla University	32	67	0
Dire-Dawa University	70	70	73
Hawassa University	106	172	125
Jimma University	67	126	0
Mattu University	79	80	0
Mekelle University	70	71	0
Selale University	74	75	0
University of Gondar	126	81	0
Total	**1037**	**1248**	**198**

Table 2. Distribution of participants across universities

3.4.2 The Data Gathering Tool

We applied data-gathering tools for both the student and the instructor groups. Since there were universities who have difficulties administering the survey online, we prepared the tools to be convenient for face-to-face surveys as well.

The student data gathering tools: We categorized the students into two: (1) those that have an opportunity to start online learning through the e-SHE platform and (2) those that do not have such an opportunity because their respective university does not have access to the e-SHE platform yet. For the first group, we prepared a questionnaire that is coded as "Student Feedback Form 001". It aims at gathering data on student priorities and insights about the introduction of e- learning in their respective universities. In addition, this tool has items that request respondents to rate their "readiness for employment and entrepreneurship" and their "abilities to access work opportunities." The second tool (i.e., the "Student Feedback Form 002") tries to capture student experiences in taking the Student Success Suit (SSS) course which is being delivered as one of the program's interventions. In addition, STU 002 has an item that asks the students to identify the reasons why they are not enrolled in the e-SHE course while the e-learning platform is ready to use in their university.

The instructor data gathering tool: One tool "Instructor Feedback Form 001" was applied to gather data from instructors. The instructor feedback tool is designed in a way that fits those instructors

1) who started taking the training,
2) who completed the training,
3) who started but did not complete the training within the expected timeframe, and
4) who did not start the training.

3.4.3 Data Quality

To ensure the utmost quality of the data we gathered, and employed a range of techniques. We began by closely monitoring the responses of our initial respondents and assessing the validity of their answers, as well as their comprehension of the questions asked. Through this process, we fine-tuned our tool until we achieved consistent and reliable results. We also conducted thorough data cleaning and completeness checks to guarantee that the data utilized in our analyses were of the highest caliber. We provided orientations for university staff who administered the data gathering and we also gave continuous support for them so they will be able to successfully manage the data gathering.

We also made our utmost effort to ensure that diversity of respondents (e.g., instructors who did not start the training, instructors who started the training, instructors who completed the training, instructors who were not able to complete the training, students who started the training, students who did not start the training, etc.) participated in the survey. This was made clear to the administrators in each participant university. The inclusion of diverse respondents in the survey is believed to have increased the quality of the

3.4.4 Data Storage, Analyses, and Sharing

With the help of the survey tools, mainly categorical and quantitative data were gathered. In addition, there were open-ended follow-up questions. Therefore, there was qualitative data too. The collected data are stored securely to protect the safety of participants. Safety measures were taken to avoid accessing the data by unauthorized personnel even within our organization.

The data-gathering methods we applied were descriptive statistical techniques for the categorical and quantitative data and deductive thematic analysis for the qualitative data. We used the ATLAS. ti version 24 to support the initial stages of qualitative data analysis. Based on the analysis results, reports were prepared in alignment with the needs of the different stakeholders and partners of the program. Then the reports shall be shared via different channels to be selected in consideration of the user's convenience.

3.5 Results

3.5.1 Feedback from Students Who Did Not Start the Courses

As described above, students who do not have the opportunity to enroll in the SSS course participate in the STU 001 category. The students who participated in the survey were mostly regular on-campus undergraduate students. The gender and year of study distributions in this category are depicted in the below pair of charts:

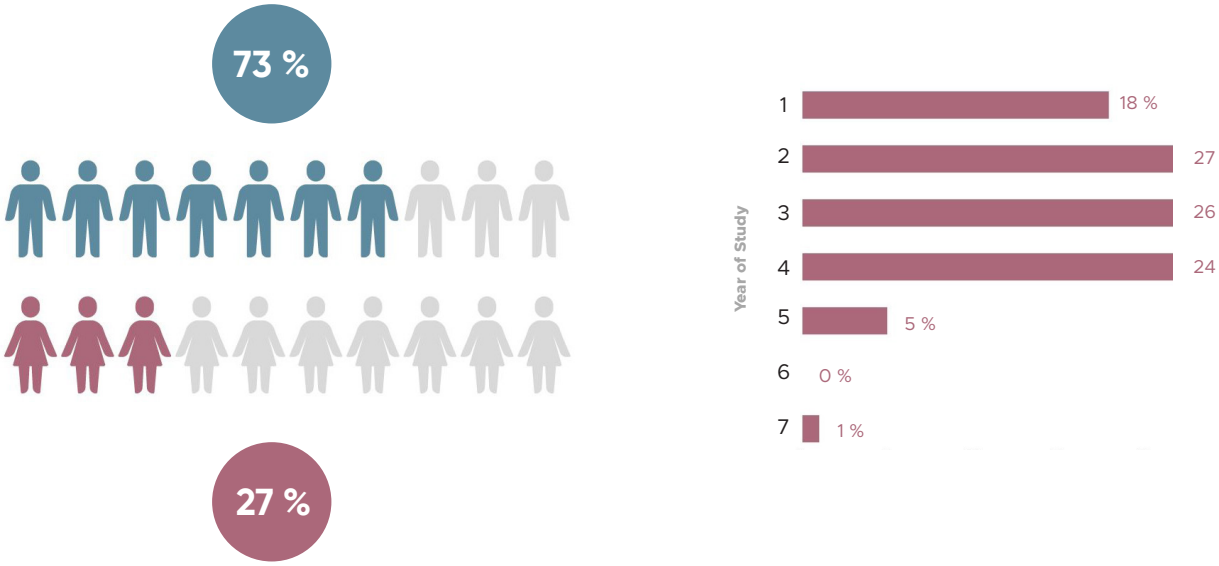


Figure 1 : Distribution of students who participated in the STU 001 by gender and year of study.

Of all the participants in this group, 27% were female students. The majority of students (83%) were beyond their first year of studies, whereas first-year students accounted for only 18% of the total participants. Out of the 1349 students who took part in the survey, 564 (42%) had prior experience with online learning, while the remaining 785 (58%) were new to it. These findings suggest that the introduction of e-learning through the e-SHE partnership may face some initial hurdles, as a significant portion of students may not be well-versed in managing digital courses.

To help implementors gain insights into whether the students had previous experience in taking courses online, if students have basic computer skills, and other challenges of students have been assessed to understand the needs and priorities of students. Moreover, if students do not think that they do not benefit from engaging in online learning, they will not be motivated to enroll in the e-SHE courses and other subsequent courses. The findings relating to these core issues are presented in the upcoming sections.

3.5.1.1 Students' motivation to learn through online mode of delivery

Participants were requested to express their thoughts on the benefits of e-learning. Based on data collected from 664 students through Google Forms, the majority believe that eLearning has numerous advantages for learners. These benefits include the ability to adopt a more selfdirected approach to learning, allowing them to set their own pace and focus on challenging areas. Many students also appreciate the flexibility that e-learning offers in terms of scheduling and time management. By accessing learning materials and participating in online discussions from any location and at any time, they can balance their studies with other commitments. Lastly, students also mention that e-learning exposes them to various digital tools and resources, which can enhance their learning experience and prepare them for the digital demands of the modern workplace. These findings imply that e-learning is a valuable and effective mode of learning for a significant proportion of the student population.

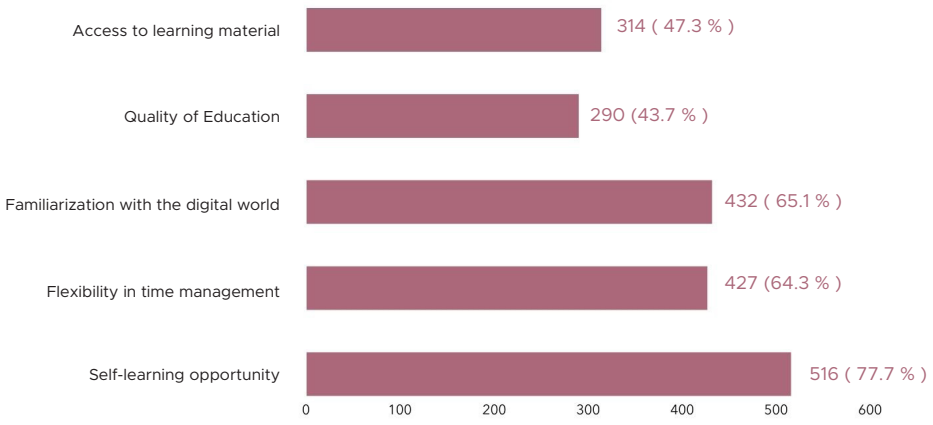
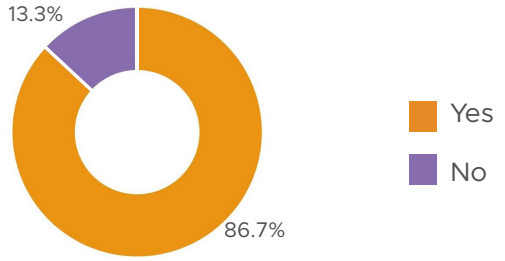


Figure 2 : Students' views of the benefits of e-learning

A promising level of motivation to engage with e-learning is indicated by the fact that 77.7% of respondents believe it provides a self-learning opportunity, 65.1% believe it helps them become familiar with the digital world, and 64.3% value its flexibility in time management.

Inquiries were also made to students regarding their willingness to suggest the eLearning course they completed to their peers, and the vast majority of those who had hands-on experience with the course provided a favorable response. Such a response suggests a positive disposition towards e-learning among the student body. As depicted in the below chart, among the respondents to this question, 86.7% are confident to recommend the training to their friends.



This proportion is promisingly high at this early stage of introducing the training to students. The implementing team should consider enhancing the support services for students. This is better substantiated by the student responses regarding the challenges they face in connection with actually taking the e-SHE courses and potentially taking other online courses.

Figure 3 : Proportion of students who recommend SSS to their friends

3.5.1.2 Students' needs and priorities

To understand students' needs and priorities, they were asked to define their actual or potential challenges that could critically affect their ability to take online courses. An understanding of the challenges helps to point out the needs and priorities of the students. This helps the program implementing partners quickly fix students' issues and results in students engaging in taking courses on the platform. With this in mind, a careful examination was conducted to identify potential obstacles that may prevent them from accessing the e-Learning platform and engaging in coursework.

The students were categorized into two based on whether they can access the e-learning platform at their university. For those students who do not have access to the platform, the Student Feedback Form 001 (STU 001) was administered while the Student Feedback Form 002 (STU 002) was applied for students who had access to the platform by the time the survey was completed.

The students who participated in the STU 001 survey provided feedback for several questions. Among more than 1370 students who participated, we found 1248 responses. 664 students gave their responses through Google Forms. The analysis result of those 664 responses indicates that the students think that they would face the following challenges in taking online courses:

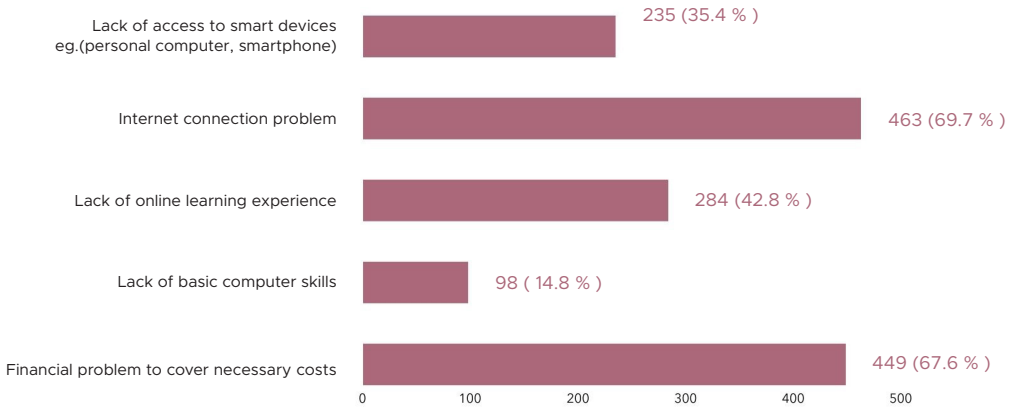


Figure 4 : Challenges of the students

The majority (69.7%) of students responded that the internet connectivity problems would be the most critical challenge followed by financial problems to cover necessary expenses (67.6%). For 42.8% of the respondents, a lack of online learning experience would be a challenge.

These results were persistent even when the number of students increased to more than 1200. With the help of the ATLAS.ti software, the grounded of the critical challenges of students across the responses is portrayed in the below figure.

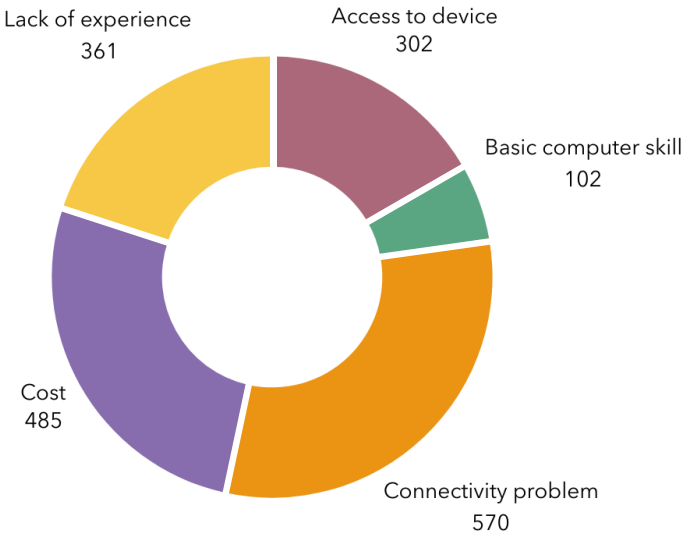


Figure 5 : Topmost critical challenges faced by the students

The three most critical challenges anticipated by the students are (1) internet connectivity problems, (2) financial problems to cover necessary costs, and (3) lack of online learning experience. The study revealed that many students expressed concerns about the cost and quality of internet connectivity. Interestingly, even on-campus students reported poor internet quality within university campuses. As a result, many students are forced to resort to using their mobile data, which can be prohibitively expensive and remains a significant challenge for most.

To fully implement this program, universities are ultimately required to extend their reach to off-campus students. The challenge of providing internet access to students residing on university campuses is already a serious issue, and it is likely to be even more challenging for off-campus students. As a result, it is possible to imply that the success of this program is strongly linked to the quality and cost of internet connectivity.

Lack of online learning experience emerged to be the third challenge for students to easily access the e-learning platform and get enrolled in the courses. As this is a new experience for most students and universities to utilize online learning opportunities, this is expected to be a challenge for students. With this anticipation, offering six courses in a package called “Student Success Suit (SSS)” is one of the interventions captured in this partnership design. However, to access this course too, students have to pass through these challenges.

Therefore, enhancing the quality of internet connectivity within the university compounds, working with relevant stakeholders to find solutions that help students get internet access for free or at low cost, screening students who lack basic digital skills, and providing them with access to basic digital skills training, are the priority needs of students in the targeted universities.

Students were also asked to share any other challenges. The ATLAS.ti grounded measure to this open-ended question is presented below:

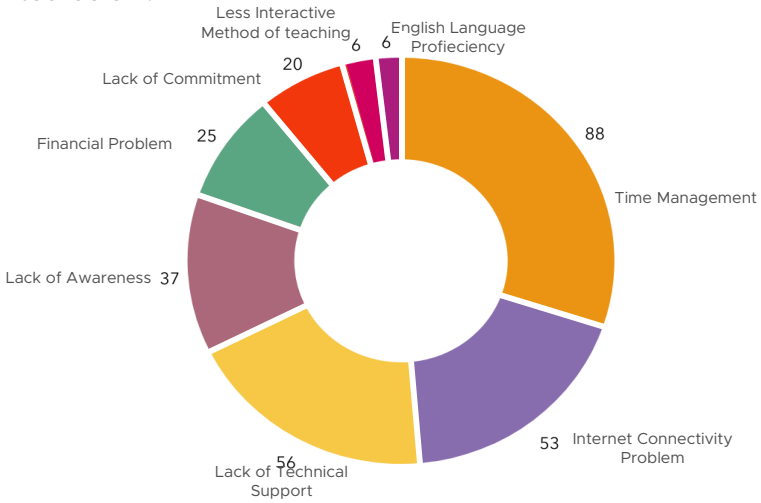


Figure 6: Other challenges faced by the students

The three most grounded challenges are (1) time management problems, (2) internet connectivity problems, and (3) lack of technical support services/encouragement by the host university. Though the internet connectivity problem was mentioned to be the most critical challenge in the previous question, it also appeared to be the third most mentioned (grounded) one of the other challenges described by the respondents.

The explanation they give for the internet connectivity problem has multiple attributes mainly including (a) internet access, (b) quality (such as speed and stability) of internet connection, and (c) cost of internet connection. Therefore, the issues of internet access, quality, availability, and cost need to be addressed to tackle internet connectivity problems.

Time management and lack of technical support and encouragement to the students mainly imply the low attention the universities have been giving to the program implementation. If universities consider these interventions important and include the implementation of e-SHE in their plans, students would not consider engaging with the SSS courses provided by the e-SHE program as activities that are consuming their time. Besides, students also described that there have not been any technical support services to help them

3.5.1.3 General feedback from students

Students were also requested to provide any feedback on the introduction of e-learning in their university. Emerging most grounded in the description of respondents, time allocation for the new course was identified as the most important issue as depicted in the chart.

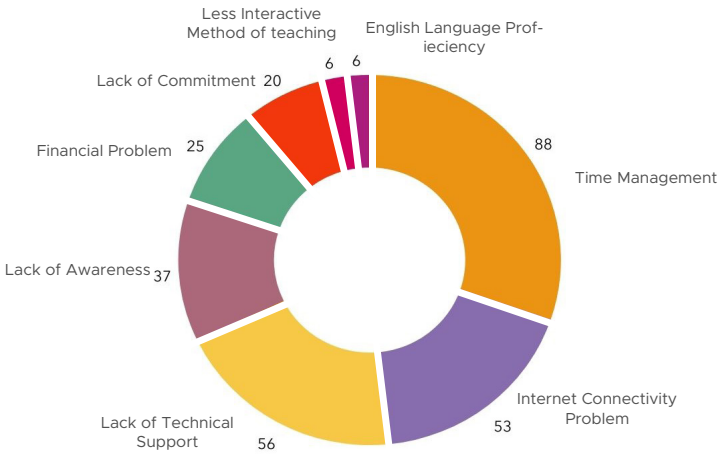


Figure 7: General feedback from the students

Based on the grounded measures, there are several challenges that students face in their attempt to get the Student Success Suit (SSS) training, such as time management, internet connectivity, and lack of technical support and encouragement. One of the significant challenges is time management, which relates to how students perceive the relevance of the training offered by the program. This perception is reasonable, considering the circumstances of the university. Unless the university recognizes student training as a crucial requirement for their studies and schedules time for the course by incorporating it into the class schedule, students will continue to encounter this challenge.

The emergence of internet connectivity in this category too indicates the seriousness of the problem. If students do not have access to dependable internet services, it is obvious that they will be challenged to cover the cost of other internet service options (e.g., using their own mobile data).

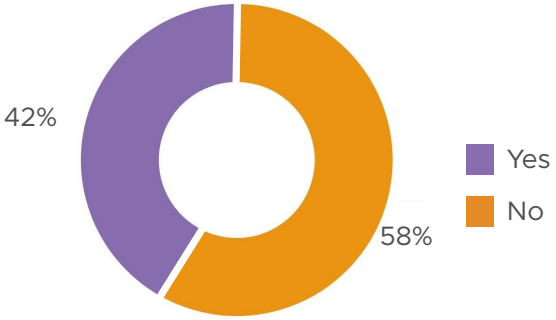


Figure 8: Previous e-Learning experience of the students

The absence of technical support services is also a challenge for students as it is their first experience for most of them. In the context of these students, unless the university provides technical support services for and encourages them to engage in the training, the possibility of meeting the anticipated number of students who get enrolled in the course will be very low. As described in the chart below, the majority of students did not have previous experience of taking an online course. This makes their accession to the SSS a new experience and hence they need support and encouragement from the university.

3.5.1.4 Students' overall evaluation of the e-SHE program

Students were required to respond to an open-ended question to share whatever they felt about the program. Their responses were analyzed with the help of ATLAS.ti. The major themes that emerged from the students' descriptions of the e-SHE program include: (1) the introduction of e- learning is an opportunity for students, (2) e- learning is beneficial for students, (3) students want to see it being practiced, and (4) keep up the good work. The rest of the themes are presented in the figure below:

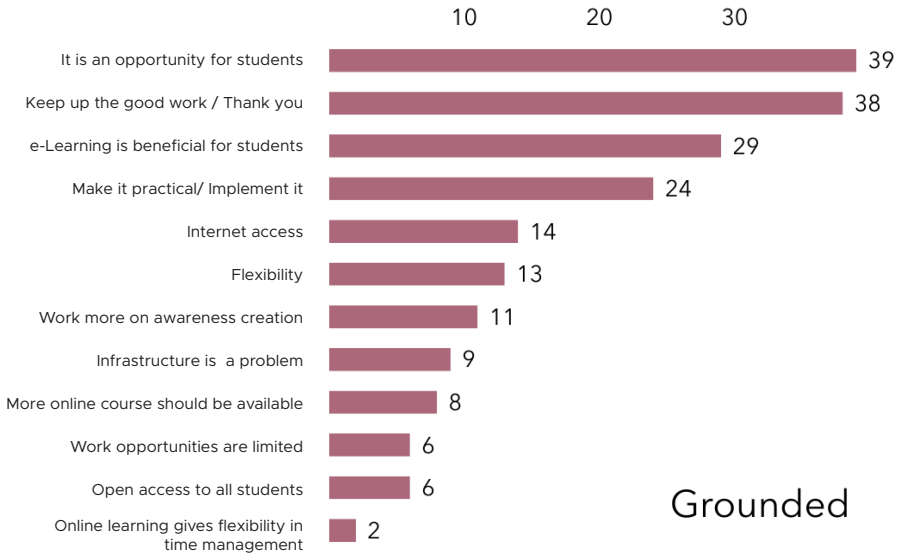


Figure 9: Students' overall evaluation of the program

The issue of internet access, the need for more awareness creation efforts, and the need for availing more online courses also emerged from students' descriptions of their views and experiences of the e-SHE

3.5.1.5 Students' opinion on their readiness and ability for work and entrepreneurship

This partnership focuses on enhancing higher education by utilizing digital technology to equip young minds with the essential competencies required for employability and entrepreneurship. The fundamental motivation behind this partnership is the recognition that fresh graduates may not possess the necessary skills and knowledge to excel in their careers or entrepreneurial endeavors. To establish a baseline for comparison, university students were surveyed on their readiness for work and entrepreneurship. Then, changes in their views will be monitored after they have experienced the program interventions.

By taking a look at the figure below, it is evident that from 664 students who participated in the survey by responding through Google Forms, the majority responded that they think they are ready for entrepreneurship and work. This remarkable response rate signifies the importance of the survey and the

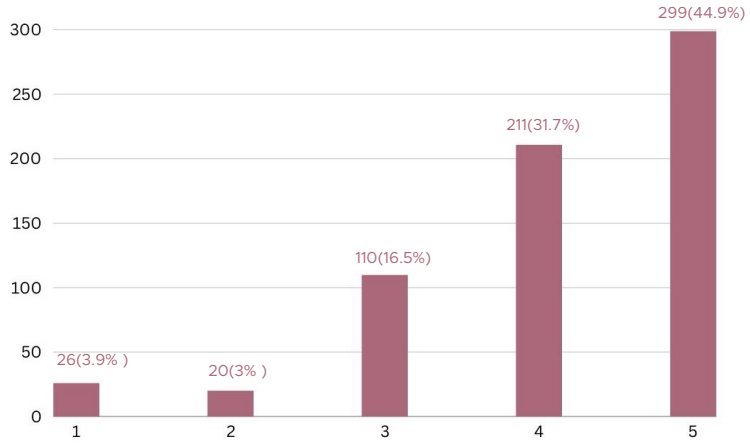


Figure 10: Students' views on their readiness for employment and entrepreneurship

Taking the sum of the proportion of those who rated their readiness 4 (i.e., 31%) and those who rated 5 (i.e., 44.9%) it is evident that more than 75% of students rated themselves as ready for employment and entrepreneurship on a five-point Likert scale (with ratings between 4 and 5).

According to the survey findings, a majority of 60% of the respondents are currently in their last years of academic pursuit and are expected to graduate within the next one or two years. The views expressed here sound more valid as the year of study increases. This indicates that they have gained a substantial level of selfassurance in their skills and feel prepared to embark on their professional journey or pursue entrepreneurship after years of dedicated learning.

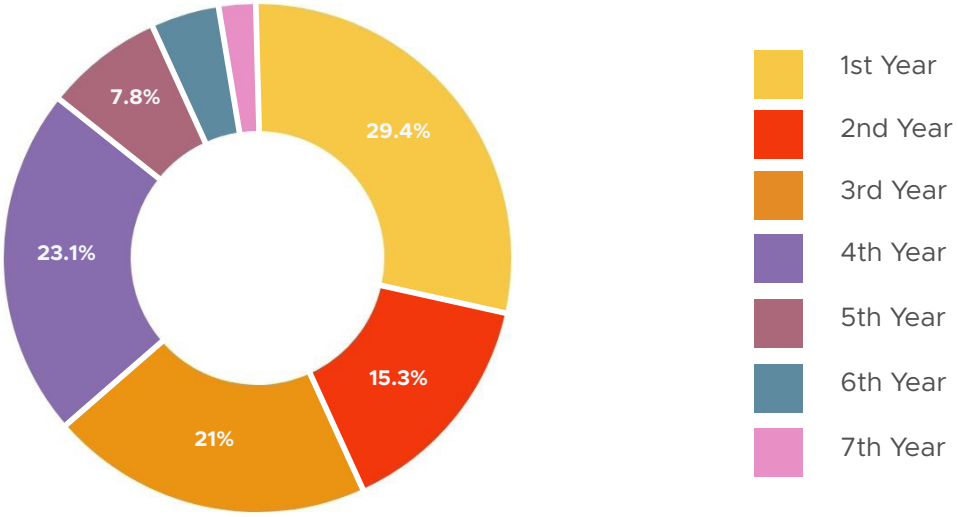


Figure 11: Distribution of respondents based on academic year

Moreover, when the number of participants was increased to 1337, the proportion of students who rated their readiness for employment and entrepreneurship with a rating of 4 or 5 saw a decline, totaling 71%, as shown in the table below:

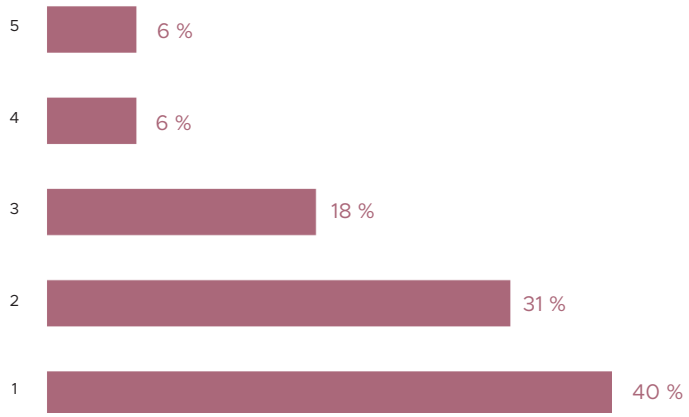
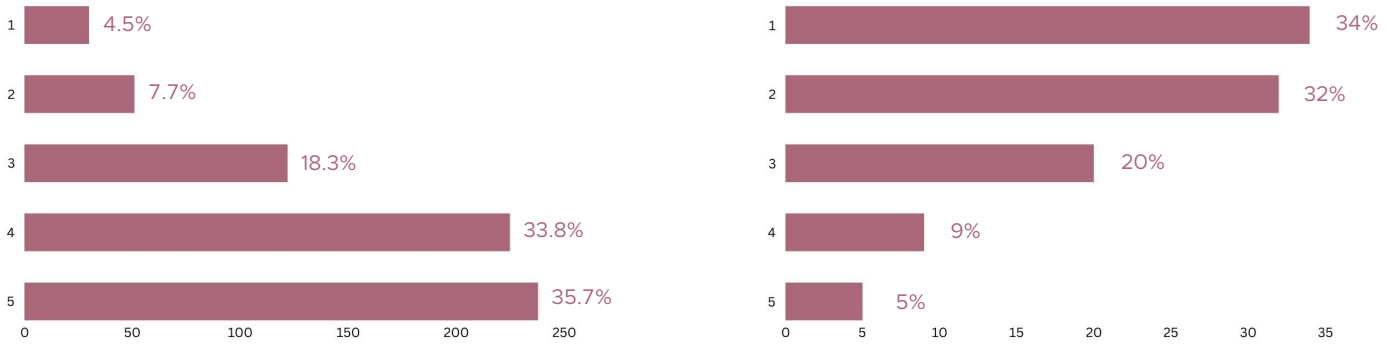


Figure 12: Views of students on their readiness for employment

The respondents have an average readiness rating of 3.93 out of 5, with the mode being 5, indicating that a majority of them feel prepared for work and entrepreneurship. In addition, we evaluated their perspective on accessing job prospects. Once more, the majority (over 69%) of participants rated themselves as a 4 or 5 on a five-point scale. This provides a baseline for determining if the program's interventions have an impact on the respondents' point of views.



(a) *(b)*

Figure 13: Views of students on their ability to access work opportunities

As the number of respondents grew to 1324, the percentage of students who rated their ability to access work opportunities with a score of 4 or 5 slightly declined to 66%. This indicates that out of the total number of students who responded, 66% of them felt that they had good to excellent access to work opportunities. However, it is worth noting that this was a slightly lower percentage than in the previous survey, indicating a possible decrease in the perceived accessibility of job opportunities among students.

Gauging the readiness and attitude of students for work and entrepreneurship can be a challenging task as it involves multiple factors that influence their employability and entrepreneurial potential. In this regard, triangulating the views of students with those of employers can provide a more holistic picture that takes into account the expectations and requirements of the industry.

However, conducting such a study requires a considerable amount of time and resources as it involves tracking and evaluating the career trajectories of graduates over some time. Ideally, a tracer study should be conducted after the program's lifetime, as five years is not sufficient to capture the long-term impact of the program's interventions on the graduates' career progression. Nevertheless, this report can still serve as a valuable reference point for understanding the current state of students' readiness and ability for work and entrepreneurship and can provide insights into the areas that require further attention and improvement.

3.5.2 Students' Experience of the SSS Courses

The other group of students (i.e., those who responded to the STU 002) was in a context where the e-learning platform was readily available on a university microsite to offer the SSS courses. The participants under this category were drawn from two universities that started offering the SSS course through their microsite. The gender distribution and year of study of the participants are depicted in the below pair of

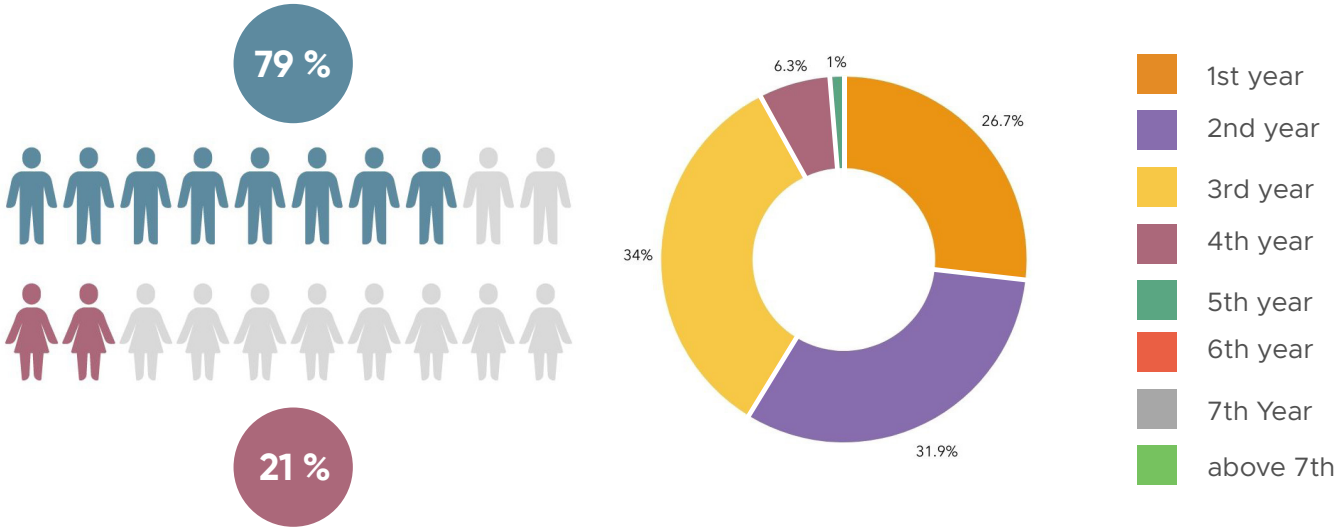


Figure 14: Participant students grouped by gender and academic year

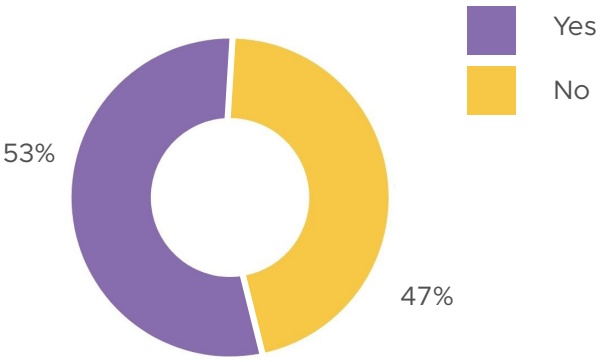


Figure 15: Proportion of enrollment

As indicated above, 21% of the participants were female. More than 70% of the participants are second year and above. These students, though the universities started offering the courses, were requested whether or not they were enrolled in the SSS course. As portrayed below, 57% of the students did not get enrolled.

If the course is accessible through the university platform, what is the reason for such a proportion of students not to get enrolled in the course? These students were asked to identify the reasons why they were not enrolled in the course. Several reasons emerged to be among the possible causes hampering the students from accessing the course.

Lack of information about the opportunity, difficulty accessing the e- learning platform, difficulty going through the enrollment process, lack of end-user devices, and being unable to afford the cost of the internet were among such reasons. The proportions of respondents along with their challenges are portrayed in the following chart:

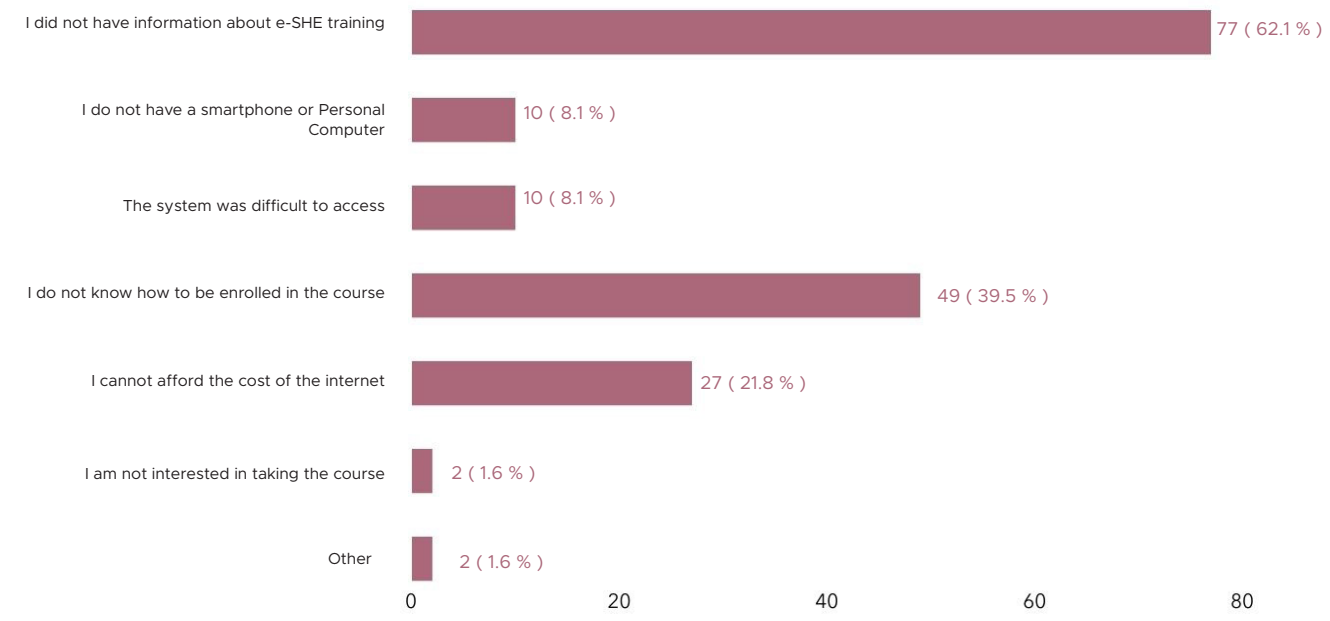


Figure 16: What prevents students from enrolling in SSS?

As can be seen in the chart, 62.1% of the students failed to use the opportunity that was provided for them because they "...did not have information about the e-SHE training". 39.5% of the students who responded to this question said they lacked technical knowledge on how to enroll in the course. Both reasons indicated that the host university is not sufficiently engaging in creating awareness for students and providing technical support services.

3.5.2.1 Students' experience of the student training offered by the program

There are six courses available in the SSS course, that is, How to Study Effectively, How to Evaluate Resources, Set Goals to Manage Your Time, Keeping Yourself Safe Online, Strategies for Successful Online Learning, How to Take a Course.While students are expected to complete all six, they have the flexibility to take them in any order they choose. The respondents of a survey were asked how many of the six courses they had completed, and the results are presented in the chart below:

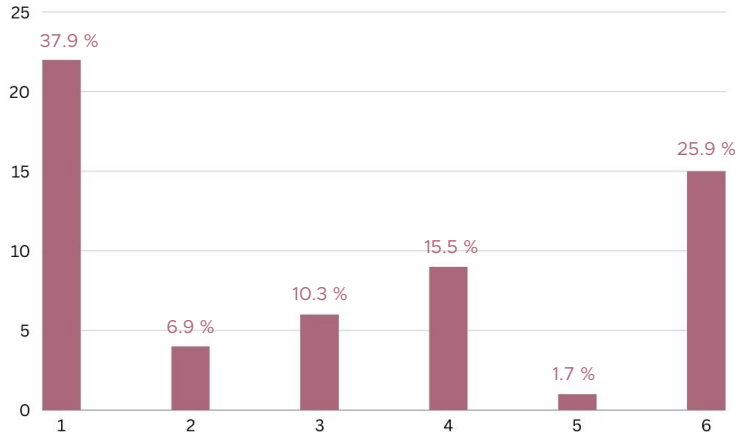


Figure 17: Distribution of students' based on completed SSS courses

Only 25.9% of the respondents completed six of the courses. 37.9% completed only one course out of six. This indicates that the completion rate is an issue for host universities. Why are not students performing well in completing all the courses in the suit? The respondents described why they were not able to complete all the six courses. They identified several reasons; vivid ones are presented in the chart below:

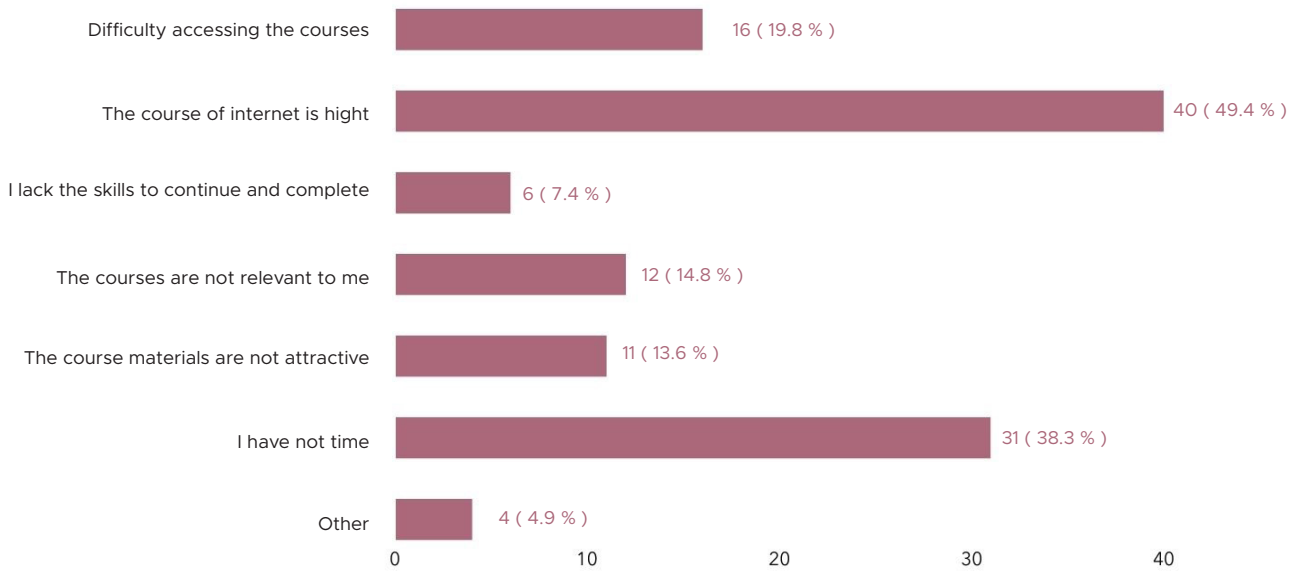


Figure 18:What prevents students from completing all components of the SSS

According to the survey, almost half of the respondents indicated that they faced difficulties with the cost of internet connectivity. This challenge was also the most commonly reported issue among students in the "other" category. Furthermore, 38.3% of respondents who did not complete all six SSS courses cited a lack of time as the second most critical factor. These results suggest that universities may not adequately address these concerns and encourage student participation. Many students view SSS courses as an optional task that competes with their regular studies for time and attention.

3.5.2.2 Students' rating of the Student Success Suit (SSS) Training

Though it was early, students were also given opportunities to provide feedback on the quality, usefulness, and relevance of the training on a five-point scale. Their responses are summarized below:

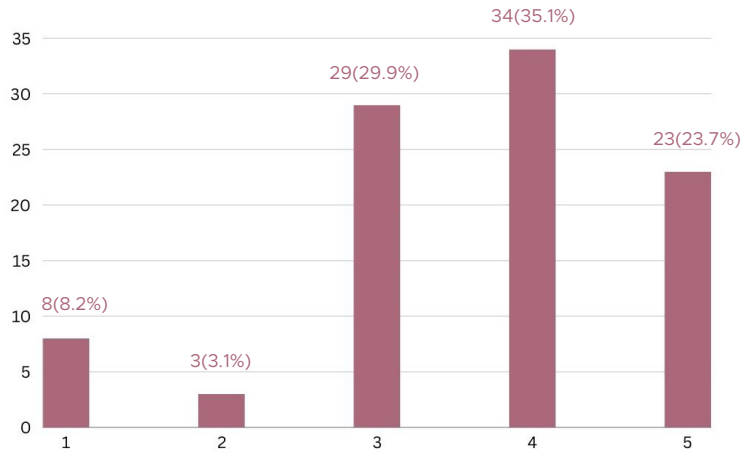


Figure 19: Students' views on the quality, usefulness, and relevance of the training

The average value of the responses on the five-point scale is 3.63. Around 58.8% of the respondents rate the quality, relevance, and usefulness of the training above 4.

As described earlier, they were also asked if they would recommend the training to a friend. The fact that the majority (86.7%) of the respondents are confident in recommending the training for their friends indicates their views on the usefulness of the training. If they think the training is not relevant or useful, they would not recommend it to a friend. There were no issues raised by students on the content (i.e., quality, relevance, and usefulness) of the training. Much of the feedback provided by the students rather relates to infrastructure and technical difficulties related.

3.5.3 Feedback from Instructors

As outlined in the report's introduction, the program aims to reach all educators teaching at higher education institutions throughout the country. The primary focus of this initiative is to provide online pedagogy training for instructors, which has been underway since the previous year. As such, we have reached out to instructors in this survey to gather their valuable feedback.

Instructors who work in the targeted universities are major outreaches. They are expected to participate in the program's capacity-building interventions that is "Master Class: Foundations for Excellence in Teaching Online" course. This course is also referred to as the "Master Class Training – MCT". The course targets all instructors in all public universities. The purpose of this is to prepare them for a teaching practice change (i.e., starting to deliver online courses, preparing digital materials, etc).

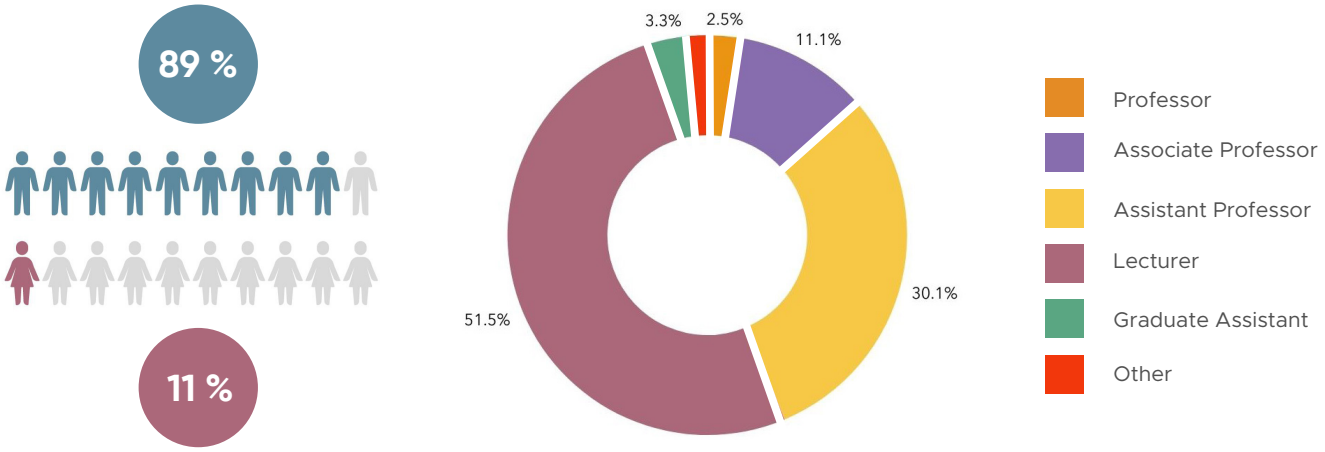


Figure 20: Gender and academic rank distribution of the instructors

Difficulty accessing the courses 16 (19.8 %)

Among the 1052 instructors who participated in the survey, 11% were females. The majority (51.4%) of them are lecturers. The academic rank of 41% of the respondents is assistant and associate professor. 2.5% of them are professors.

To assess the degree of adaptability to the new mode of teaching (i.e., teaching practice change), we tried to check if the respondent instructors have prior experience of teaching online. Most of them responded that they had no prior experience, implying the importance of the training for the instructors to engage in the new mode of teaching.

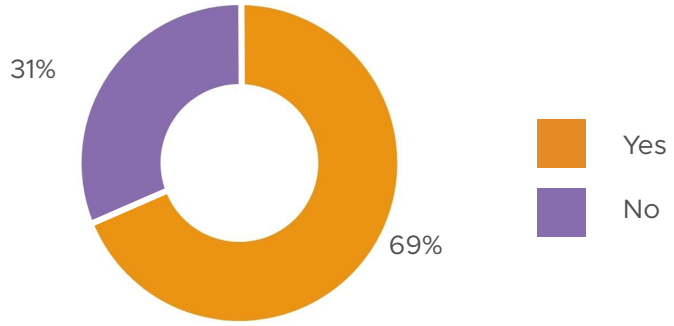


Figure 21: Proportion of the instructors with prior online teaching experience

This is an important insight for program implementors. This has to be assessed in line with the content of the MCT so that instructors who do not have prior experience in teaching online could be given an opportunity to get exposure to an additional capacity development program.

3.5.3.1 Instructors' Motivation and readiness for online teaching and learning

The anticipation by instructors that they had no prior experience teaching online would normally lead them to be motivated to engage in the training. This implies that the fact that most of the instructors did not have prior experience in teaching online is an indication that most instructors would be motivated to participate in the training and teaching practice change initiatives of e-SHE.

Moreover, a group of instructors who started the training but did not make good progress completing the course within the anticipated time was asked an indicative question to see if there was an issue of lack of motivation. These groups of instructors were asked if they still needed to continue with the training and around 85% of the instructors responded that they still needed to complete the training. The reasons for them not completing the training are not related to lack of motivation. Besides, only around 3% of the instructors responded that they found the training less relevant for them.

The value of the MCT course is undeniable, with 94% of instructors willing to recommend it to their colleagues. This resounding testament to its effectiveness and worth assures that all who undertake it will benefit greatly. It appears that lack of instructor motivation is not a problem for now. For a better understanding of the instructors and their circumstances, it is necessary to explore if they have other challenges. These challenges are categorized based on the type of respondents – for those who started the MCT and for those who did not start the MCT. The details are presented in upcoming sections.

Therefore, the motivation and readiness of the respondents are not found to be an issue; rather, the university management should focus on resolving the challenges and making an enabling environment for the instructors to be engaged in a more effective process of getting the training and engaging in teaching practice change.

3.5.3.2 Challenges and Priorities

Instructors' challenges and priorities were assessed taking into account their background – whether or not they started participating in the MCT. We took this parameter because the program has been suffering from a low rate of completion in the MCT. Of all the respondents, 1050 instructors responded to the question of whether or not they are enrolled in the MCT. As portrayed in the charts below, 52% of them (547 instructors) were not enrolled in MCT. Of those who responded that they had started the MCT by the time of the survey, 54% said that they had completed the training.

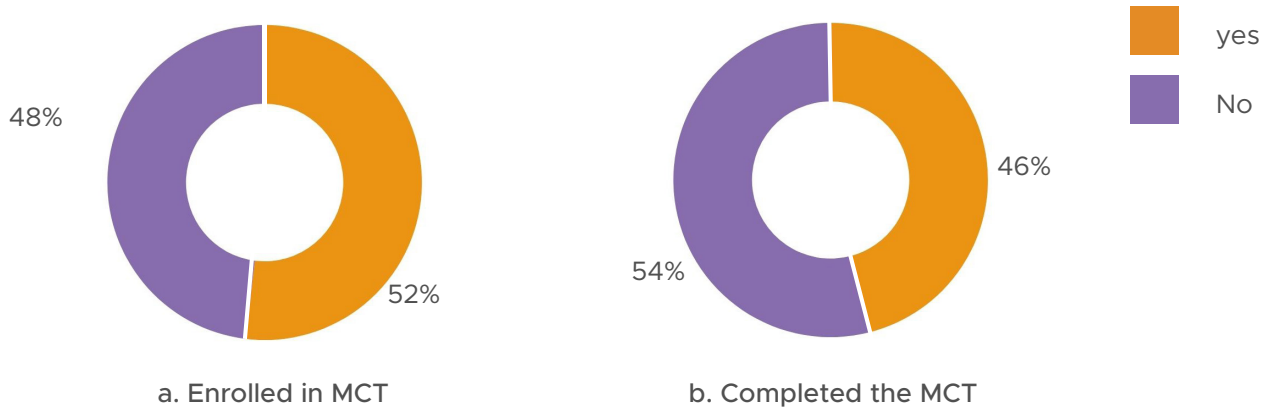


Figure 22: Instructors' enrollment and completion rate of MCT

The inclusion of those who did not complete the training enhances the validity of the feedback on the possible causes of instructors' failure to complete the MCT though the other instructors can still provide valuable feedback as they know the emic context.

Possible causes of low MCT completion rate

Apart from the administrative problems that are vividly understandable without conducting a survey (e.g., lack of process visibility to follow up on the progress of the training and follow up with instructors in line with their progress), the instructors provided important feedback that provides an insight into the question of what are the reasons for instructors who started MCT to not compete it within the anticipated time?

The chart below summarizes the feedback received via Google form from 162 instructors who qualified to respond to this question among the total 397 respondents.

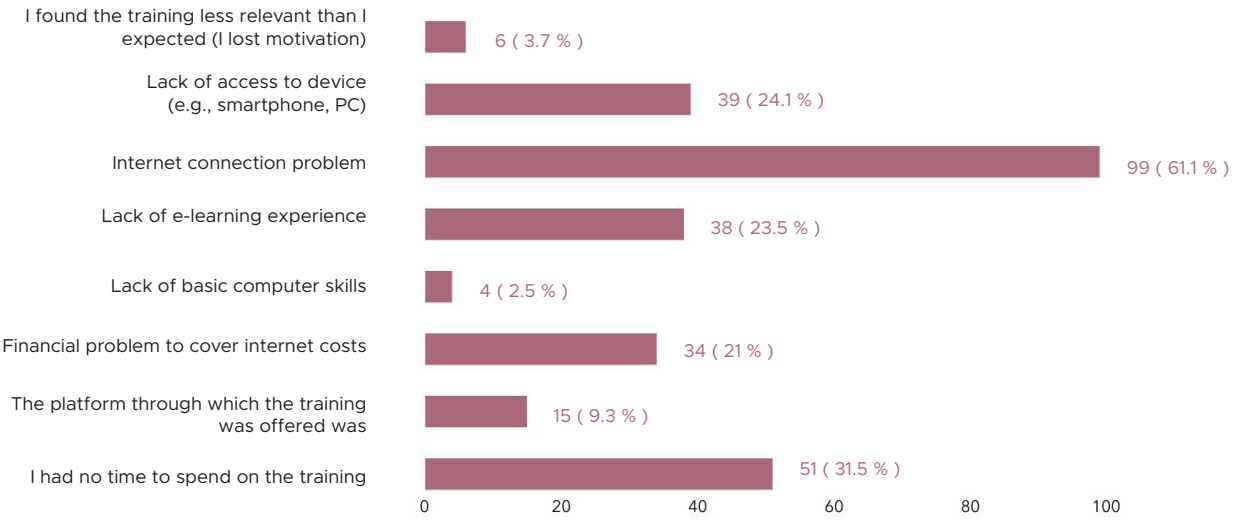


Figure 23: Possible causes of low completion rate in MCT

As indicated by the above chart, (1) internet connectivity problems, (2) time allocation problems, (3) lack of access to devices, and (4) lack of e-learning experience emerged to be the most critical reasons for instructors not to complete MCT within the anticipated time. These challenges are indicators of the priorities program implementors could think of fixing in the order of their importance for a more accelerated result in MCT.

The same result persisted when the number of respondents increased to 1052 instructors. Among these, 163 responded that they had started the MCT but did not complete it within the anticipated time and were qualified to answer the question of challenges that contributed to not completing MCT within the anticipated

time. Their feedback was processed through a qualitative data analysis supported by the ATLAS.ti resulted in the following:

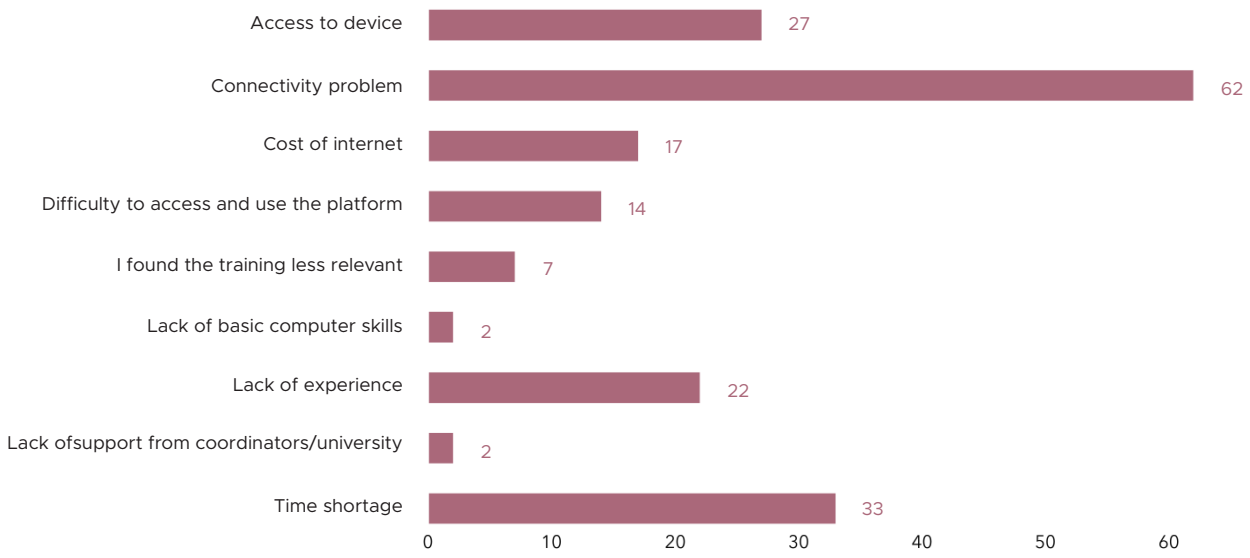


Figure 24: Instructors' views on the challenges to completing MCT

Here too, internet connectivity problems, time shortage, access to devices, and lack of previous experience emerged to be the most critical challenges.

This consistent result through the triangulation from both groups adds to the reliability of the finding. For the instructors who started taking the MCT, the completion rate could be enhanced by tackling (1) internet connectivity problems, (2) time allocation problems, (3) access to devices, and (4) problems related to lack of previous experience in teaching online courses. Internet connectivity is the number one challenge. It is associated with the issue of access to the internet, the quality of the internet, and the cost of the internet.

What makes instructors reluctant to join MCT?

The other group of instructors was those who did not start MCT. These instructors were asked to identify their challenges. Their feedback was received via Google form and manually to increase the number of respondents. From 397 respondents who provided their responses through Google form, 257 responded to this specific question as summarized below:

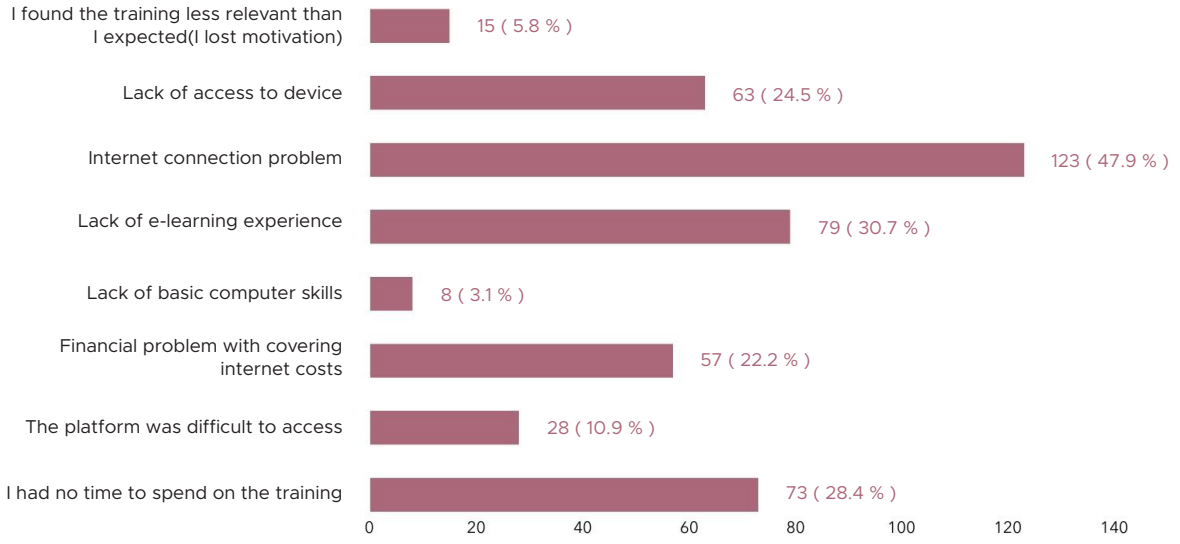


Figure 25: Instructors' challenges to enroll in MCT

Internet connectivity problem (47.9%) is the most critical reason for instructors not to join the MCT. Lack of previous online training (30.7%) emerged to be the second most critical problem. The third critical problem is a shortage of time (28.4%).

For those instructors who did not start taking the MCT by the time of conducting this survey, internet connectivity is identified as the number one challenge. Probably, access to the internet, and/or the cost of the internet may contribute to this. For instructors to be able to start taking the MCT, universities should make sure that there is access to a dependable internet connection. If the circumstances in the university do not allow this, investing to enhance this infrastructure should be the priority of the university leadership.

3.5.3.3 Anticipated practice changes by MCT-trained instructors

After completing the MCT, instructors are expected to (1) change their teaching practices, develop or search from open sources digital content, and offer an online course. Instructors who participated in MCT were asked to describe what they would be able to do as a result of the training.

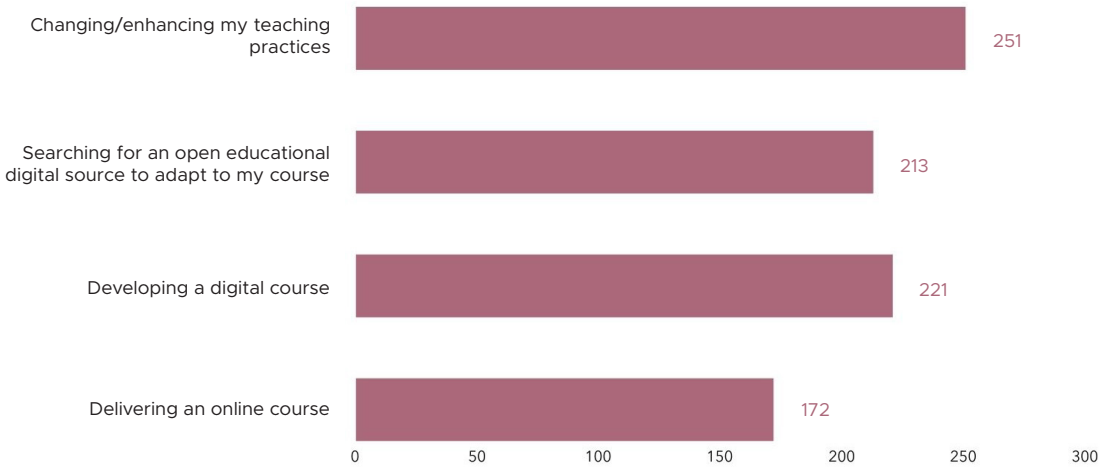


Figure 26: Instructors' views on possible changes in practice

As shown in the above figure, instructors think that they can (1) change or enhance teaching practices, (2) deliver an online course, (3) develop digital course content and (4) adopt digital course content from an open educational source.

3.5.3.4 General feedback from instructors

Instructors were also requested to provide any feedback in response to an open-ended question. Several themes emerged from their description of their views on the e-SHE program. The descriptions focus on the MCT. In most cases, the instructors commended the importance of the training. However, they also expressed concerns about the lack of time to spend on the training provided the training is so extensive to be handled as a side task in addition to the instructors' regular duties. Other themes were summarized with the help of ATLAS.ti as presented in the below figure.

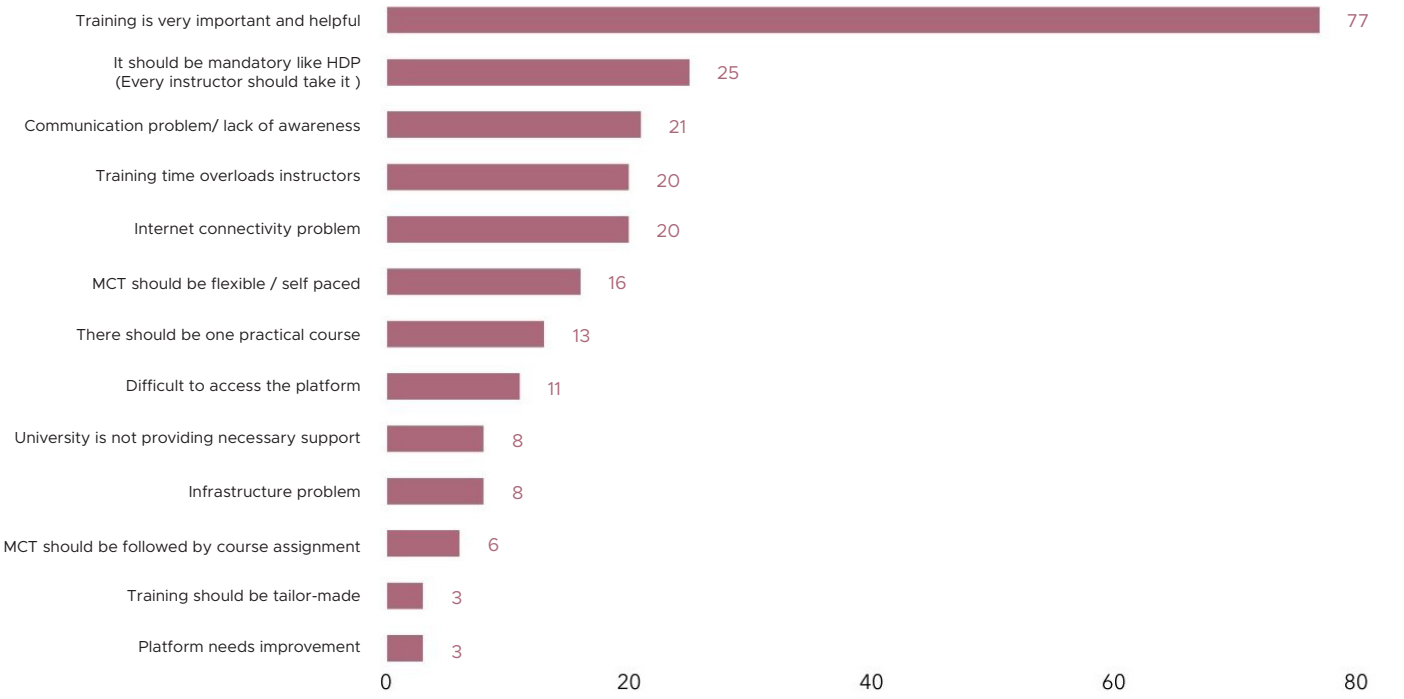


Figure 27: Instructors' general views of the e-SHE program

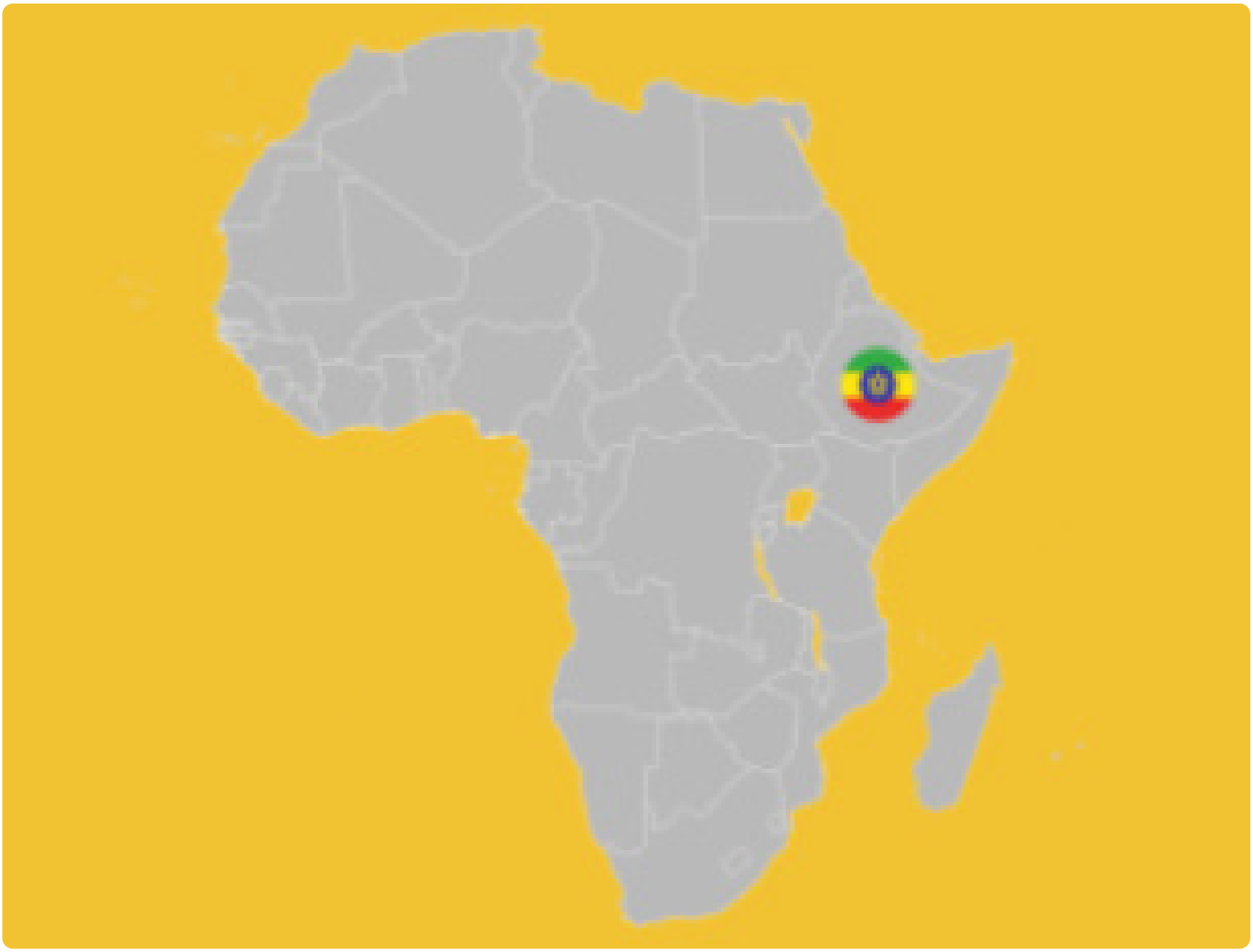
As a result of participating in the MCT, instructors share the view that this training should be mandatory for all instructors in higher education and should be incorporated into continuous professional development. Internet connectivity issues are again among the topmost grounded concepts that emerged from the data gathered from participant instructors.

They also noted that the program is not well communicated to the university community. There should be more efforts to create greater awareness about the program and the opportunities for instructors for better instructor participation.

04

IMPLICATIONS FOR PROGRAM IMPLEMENTATION

The findings of the study have implications for program implementation. For the sake of clarity, the implications for different partners are presented separately in the upcoming subsections.



4.1 To the Participant Universities

The purpose of this program is to support the participant universities in bringing about foundational changes in their teaching-learning systems, leverage the use of education technology, and develop the capacity of their human resources, so they will be able to produce graduates who are ready for employment and entrepreneurship. As such the owners of the key interventions of this program should be universities if the interventions are to be sustainable and impactful. Based on the findings, universities are recommended to take actions that are highlighted in the upcoming paragraphs.

Universities should watch readiness indicators:

Some of the key factors that indicate a target university's readiness toward taking over the leadership and implementation of university-level interventions include (1) the university's focus on identifying the diversities among its student and instructor population and plan to meet the needs of students and instructors, (2) students' readiness to access and pursue online courses, (3) instructors' readiness to access online courses and (4) to deliver online courses. Therefore, university leadership should track the university's readiness to launch courses based on these indicators

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So far, as we learned from this survey, universities generally have not been paying attention to the profile of their student and instructor population. Going forward, each university should take the lead and create the necessary conditions to start some degree of course digitization.

Universities should embark on an evidence-based approach:

As we experienced during the past year, it is hard to get data about the population size, the male-to-female ratio, age, and information about disability and vulnerability of students and instructors. In the absence of readily available data on population size and the nature of the population, it is difficult to prepare a valid plan to build the capacity of both students and instructors at each university level.

We recommend each university start keeping up-to-date data about students and instructors (their population size, gender, age, disability, and whether or not they took the training). In the coming period, universities must prepare a contextualized plan based on the evidence.

Universities should address the challenges of instructors and students:

Both instructors and students identified (1) internet connectivity problems, (2) lack of support and encouragement, (2) time pressure, and (3) lack of awareness as critical problems. These problems are indicators of the absence of the required level of university commitment to implement the e-SHE interventions. Knowing the diversity of students, understanding the challenges of each segment of the student population, and incorporating components that address the challenges and help each type of student get the anticipated benefits is important. Therefore, universities should have a clear strategic direction, a sufficient level of top leadership engagement, and staff and student mobilization that is reinforced through the entire university system and management.

University leadership owns the initiative and gets on university-led implementation:

The previous recommendations would come to fruition depending on how quickly the university starts leading the program implementation processes. The university could easily take necessary actions proactively if the issue of e-HSE implementation is mainstreamed and owned by the leadership. This puts the university in a leading position.

4.2 To the Arizona State University Team

Feedback from discussions and the survey results have important insights for the ASU team. Some of them are outlined in the below paragraphs.

Platform readiness is a key predecessor for university-led processes:

The eLearning platform represents the environment for the implementation of the human development intervention and digital course offering. Besides, the views of students and instructors who participated in this study imply the need for closer follow-up and support. Unless the university staff does not have access to and control of the platform, it is painstaking to track the progress and identify areas of intervention by each university.

There is an urgent need for university-based IT support services:

Universities need to manage the services provided for system users as quickly as possible in order to help users adapt to the new online teaching and

This requires early training and support for the ICT team at each university. If ASU plans to refrain from providing some control and roles for the university IT personnel until the upgrading and customization of the platform are completed, universities will lose a learning and familiarization opportunity. Besides, ASU will also lose the learning opportunity to meet requirements based on user feedback.

Schedule university-level rollout:

ASU needs to have a plan for reaching each university, rolling out the platform, onboarding IT personnel, and enabling them to start university-led implementation as early as possible. This schedule should be shared among implementing partners (i.e., each university and local project team) for better collaboration, speed, and effectiveness.

4.3 To the Local Project Implementation Team

Findings indicate that the local project implementation team has completed most of the deliverables expected to be executed centrally. It should now shift its focus to universities. The approach should be supporting the universities to execute e-SHE deliverables through a university-led process. Specific areas of support are highlighted below.

Engagement of university leadership:

Most university leadership has been onboard with implementing program activities. For example, 44 of the 50 participant universities have assigned eLearning coordinators. The level of coordinator engagement and speed at which universities adapt to digitization varies among universities. The local team can help universities deepen their engagement through more collaboration with university leadership. Then, through engaging the coordinator and backstopping with her/him, the university should establish a unit or a team that at least is composed of the eLearning coordinator, a certified instructor trainer, and a trained ICT staff. This condition signals the possibility of starting university-led implementation of the program.

Moreover, the university team requires the support of the university's top management in having an endorsed implementation plan, and in the allocation of the required resources (for staff deployment, use of facilities, and infrastructure).

Focus on university system changes:

The local e-SHE team has delivered most of the foundational outputs. These outputs prepare participant universities for practical changes in their teaching and learning systems and processes. Instead of exerting efforts in facilitating student training, which is practically infeasible given the size of the total student population, working towards influencing each university to make SSS part of the academic program scheduling pays off. Universities have established systems that schedule courses for each program and follow up on the delivery of such courses. If universities make SSS courses mandatory, they can reach all students quickly.

If universities make the MCT a requirement for teacher's professional development, the existing unit that manages instructors' continuous professional development (CPD) can manage it. The time required to reach all instructors will be shortened if MCT is managed within each university.

Therefore, the local e-SHE team should focus on supporting universities in adopting university policies and strategies that enable eLearning implementation at the university level. These legislative frameworks should also be reflected in the university's senate legislation to institutionalize and mainstream the practice changes in the university system.

4.4 To the Foundation

The Foundation brought ASU and SYS to manage the implementation of this partnership's interventions. These partners have a separate contractual relationship with the Foundation. Though the overall targets and lifecycle of the program are clear to both partners, no governance mechanism brings the two on a consistent delivery cadence and progress tracking mechanism. This puts the burden of creating a collaborative environment on each partner. Therefore, the foundation should anticipate regularly engaging the two partners through a tripartite platform and ensuring smooth and prudent progression of the program implementation. The below paragraphs provide further descriptions of the implications of the findings to the Foundation.

Bridging governance gaps:

The implementation of the program requires strong collaboration between ASU and the local e-SHE team. The key intervention areas in this partnership have a strong precedence relationship. For example, to start university-led student training and education, the digital platform should be customized to the specific needs of the target universities and be accessible to the universities.

Who ensures whether the university requirements are met in the customization of the platforms is not clear. Besides, the university's implementation team should have a role to play in providing the required support services for the system users. If the local e-SHE team plans to support universities in launching university-led implementation, while ASU has different priorities, there will be a challenging environment in participating universities. The foundation can help create synergy based on the project's targets and timelines.

Consideration for project scope adjustment:

The training provided by the program to the instructors, that is the MCT focuses on online pedagogy. However, instructors also need to have foundational digital skills and more exposure to digital content development which were not adequately addressed. It would be of greater contribution if the foundation considers deepening instructor capacity building through (1) assessing and addressing the digital competency gaps of instructors and (2) supporting the instructors in the development of their digital content development and delivery. Besides, the foundation can play a significant role in deepening the contribution of e-SHE towards enhancing graduate employability through a comprehensive university leadership engagement that aims at embedding graduate employability into the university teaching-learning system. There is also an opportunity for the foundation to contribute in the form of policy reform support to address the issue of access to end-user devices and internet connectivity problems in the student community.

As the study revealed, a significant proportion of students express that access to end-user devices (e.g., smartphones and personal computers) is a challenge for them to be able to access the courses offered through this partnership program.

The majority of the students reported that they have been challenged by the cost of internet access. The majority of students raised concerns about the quality of internet connectivity. Issues such as student loans, internet service pricing, and related matters may be addressed through policy changes and partnerships. However, these issues are not within the scope of the present intervention. The Foundation may consider making adjustments to the scope of the program to address some of these concerns.

4.5 To the Ministry of Education

As an owner, the Ministry plays an important role in identifying issues that need to be addressed at higher levels. Internet connectivity has emerged to be a major challenge for both students and instructors. This challenge has two facets: quality and cost. The quality of the internet the universities are providing for students and instructors was reported by the majority of respondents to be poor. When they choose to use their internet data, the cost is not affordable. Therefore, they were not able even to continue taking the student success suit and master class courses let alone taking or providing an online course. Therefore, the Ministry of Education can play an important role in addressing the quality and cost-related issues of internet access.

The Ministry can also play an important role in directing the implementing universities towards adopting their strategy, policy, and procedures in a way that fosters the implementation of eLearning and enhances the quality of digital education. Besides, the universities' resources should be allocated in a way the missing facilities and infrastructure are addressed and the university community has an enabling environment to go digital.

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