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Impact of Covid-19 on Undergraduate Students in Penang

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Impact of Covid-19 on Undergraduate Students in Penang

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EXECUTIVE SUMMARY

- Penang Institute carried out a survey to examine what impact Covid-19 has had on undergraduate students in Penang, with a focus on three themes, namely 1) academic life, 2) social and emotional life and 3) employment prospects.

- The results show that the delivery of online teaching and administrative support were generally evaluated positively by the respondents. The number of respondents who are satisfied with online learning outnumbered those who are not.

- However, the experience of online classes also presents new challenges to the students. A significant proportion of the students encountered higher workloads and difficulties in group projects. Likewise, a significantly high percentage of respondents think that being in campus is important for their overall educational experiences as well as their social and emotional well-being. Also more students think that their learning experience has been hampered by Covid-19 than not.

- The survey also found that there is a significantly high percentage of respondents who think that their employment prospects have been hampered by Covid-19. At the same time, many respondents are willing to work in the gig-industry until they can secure a full-time job or even work in an industry that is not compatible with their educational qualification.

- This paper recommends that higher tertiary education institutions should embrace hybrid learning, rethink the one-person teaching model and invest in online teaching tools. Counseling services in these institutions should also create more easily available counseling guidance. Lastly, the state government should partner with private industry to create more job opportunities for these graduates.

Introduction

The Covid-19 pandemic resulted in temporary closures for higher education institutions across Malaysia in 2020 and 2021. The pandemic transformed the way learning took place, with classes traditionally conducted in lecture halls being swiftly moved to online learning. The disruption has not only affected undergraduate students' academic life, but also their social life and how they view their future prospects upon graduation.

This survey examines what impact Covid-19 has had on undergraduate students in Penang, with a focus on three thematic areas, namely 1) academic life, 2) social and emotional life and 3) employment prospect.

This survey was conducted from 28 September 2021 to October 2021 and was opened to all tertiary education students in Penang. Respondents participated in the survey on a voluntary and anonymous basis virtually. A total of 269 students from both public and private tertiary education institutions in Penang participated; 85.5% of them are from private tertiary education institutions and 14.5% are from public ones, and 56.5% of them are female and 43.5% male.

Demographic Profile

Undergraduate students from 18 to 21 years old form the highest percentage of respondents. The breakdown based on age is as follows: 18 years old (17.5%), 19 years old (20.1%), 20 years old (22%), 21 years old (20.4%), 22 years old (9.3%) and 23 years old (4.5%). Respondents aged between 24 and 34 years old vary between 1.9% to 0.4 % of total respondents. The respondents come from different parts of Malaysia, with a majority of them being from Penang (67.7%). Following that are students from Kedah (14.9%), Sabah (5.9%) and Perak (4.1%).

Out of the 269 respondents, 34.2% are first year undergraduates, 38.7% second, third or fourth year undergraduates, and 26.4% are final year students. Only 0.7% are part-time students.

Level of Study bar chart: First Year 34.2, Second, Third or Fourth Year 38.7, Final Year 26.4, Part-Time 0.7
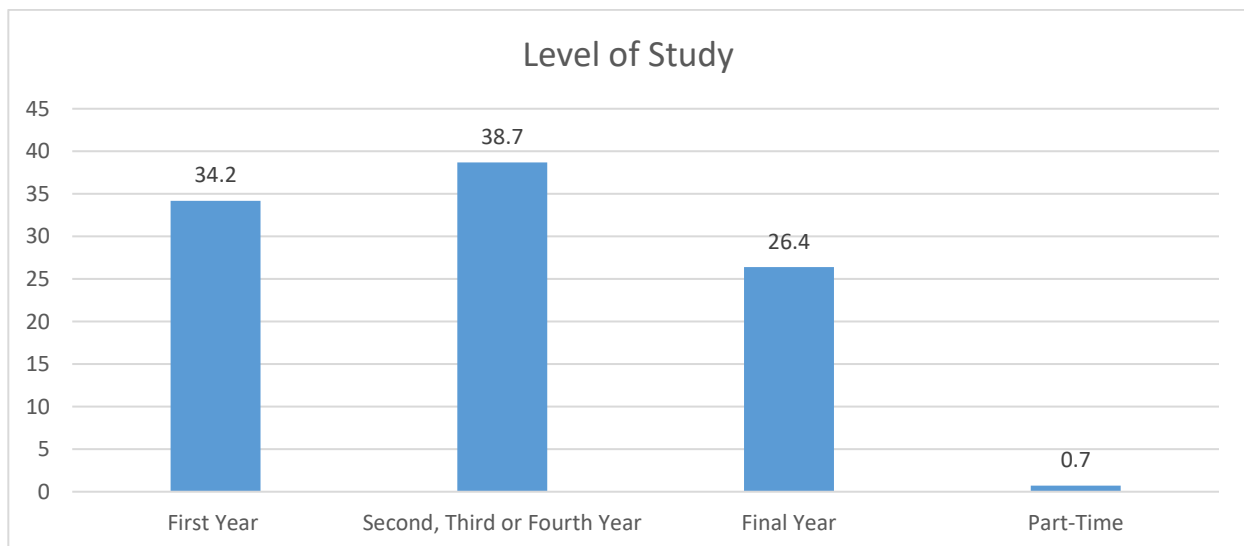
The various disciplines or courses are well represented in the survey as well. The most dominant are accounting and finance (21.6%), engineering (19.3%), medicine and health care (17.5%), business management and administration cum marketing and sales (16%), and information technology (13.8%). Other disciplines that have less respondents are social sciences (1.9%), languages (1.1%), applied sciences (0.7%), architecture and building (0.4%), agriculture, forestry, fishery and veterinary (0.4%) and other disciplines (6.7%). The lower representation of these disciplines has been expected since they are less popular as undergraduate courses. In addition, not many tertiary education institutions in Penang offer such courses.

A total of 92.9% were attending online classes due to the movement control order, and only 6.3% were attending hybrid classes where they were allowed to be on campus occasionally and all of these are from the medical and health care discipline. These students have been allowed on campus because their learning experience necessitates certain medical equipment or practical training that can only be found in campus or at hospitals.

With online classes replacing traditional classroom learning, internet accessibility becomes a critical factor. Respondents are more or less equally divided on the question of internet accessibility, with 51.9% answering that they do not faced difficulty in accessing internet while 48.1% give the opposite answer. However, answers on how satisfied they are with the internet speed is more nuanced, with 13.9% being very satisfied, 59.2% satisfied, 22.8% dissatisfied, and only 4.1% are very dissatisfied. On the whole, there are still more students who are satisfied than dissatisfied with their internet speed.

Satisfactory Level with Internet Speed
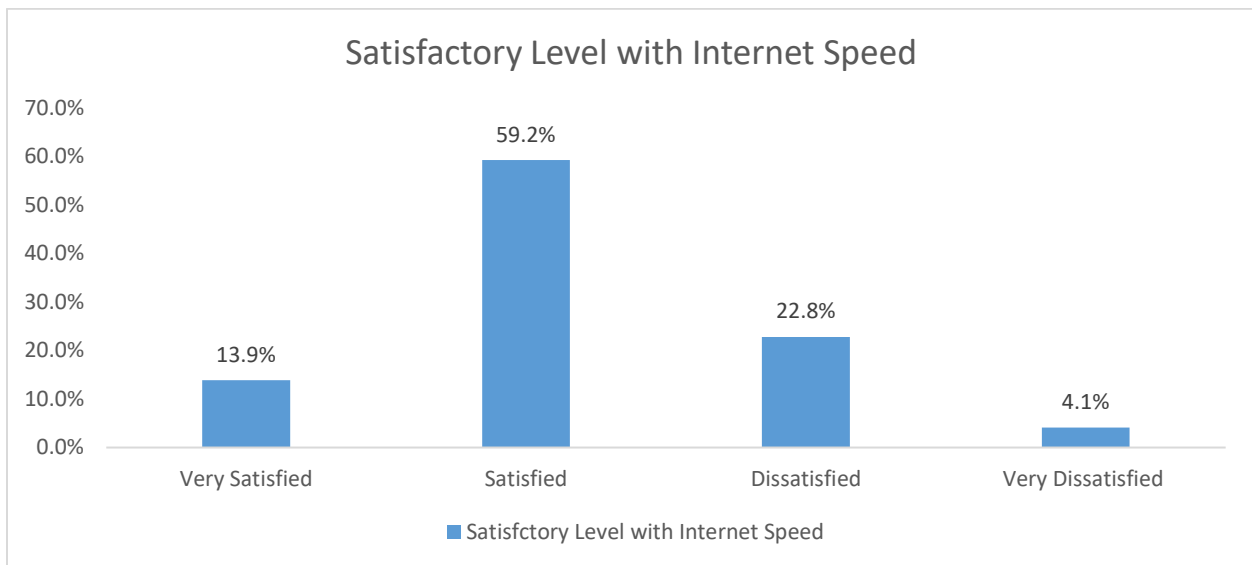
1. Academic Life

The first thematic area of the survey focuses on the academic experience of the respondents. Specifically, answers are sought to the following questions: How has the Covid-19 pandemic transformed the learning experience of the respondents? What are the dominant changes, and how satisfied are the respondents with the switch to online learning?

Dominant forms of learning

As much as 61% of the respondents reply that online in real time is their most dominant form of learning. Following that is online learning through video recording (18.6%), online through receiving presentation slides and reading materials (14.1%), and written communication (9.3%). Only 3% answer "Not applicable" and these are undergraduates from accounting and finance, medicine and health care, business management and information technology. Internship or industrial training may be one reason these students are exempted from excessive online classes. Another reason may be that some of them are part-time students and may therefore not need to attend as many lectures as others.
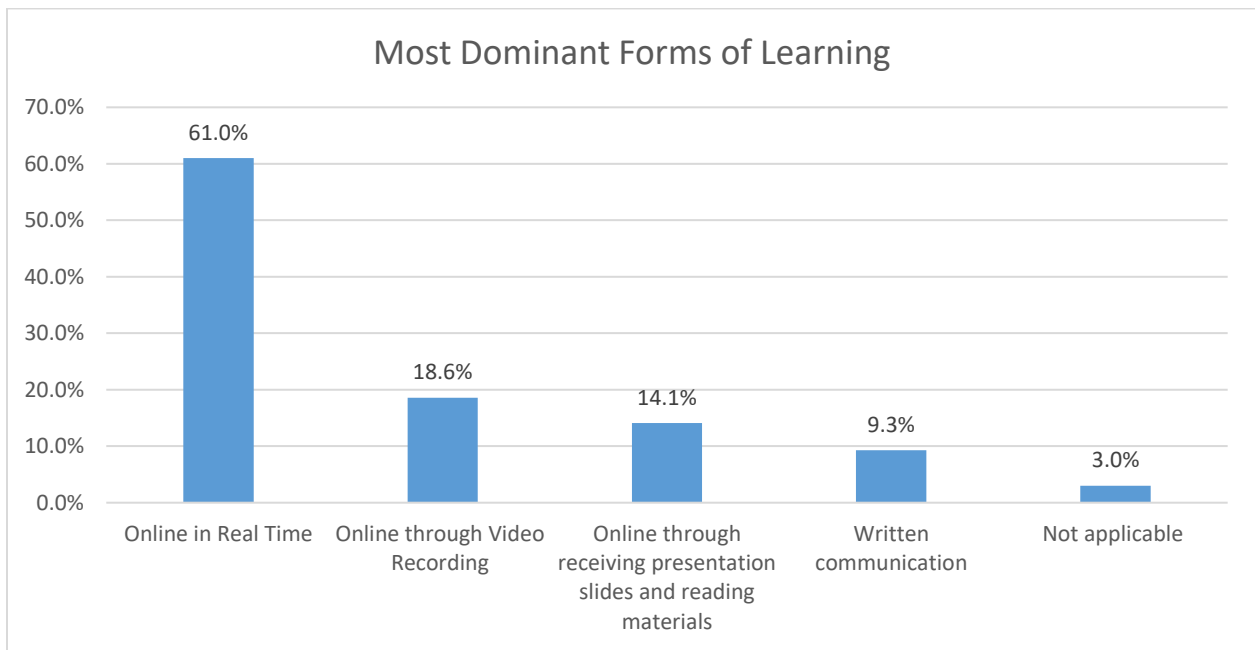
Despite online classes being a new experience for many undergraduates, the number of respondents who are satisfied with the changes outnumber those who are not. In particular, 20% are very satisfied with online in real-time learning, 63.6% are satisfied, 10% are dissatisfied and 5.3% very dissatisfied. Only 1.1% answer that online learning is not applicable to them.

Satisfaction rate with online learning
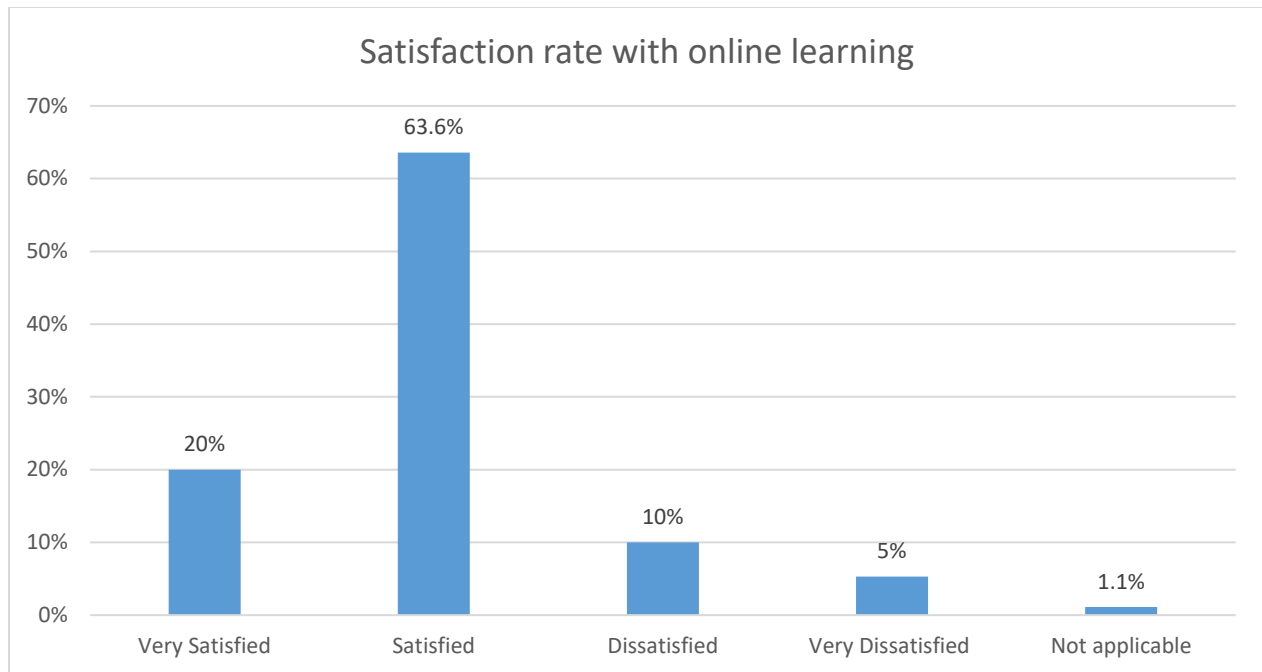
Likewise, when it comes to online lessons through video recording, 40.9% and 29% of the respondents are satisfied and very satisfied, respectively. However, 14.8% and 7.5% are dissatisfied and very dissatisfied, respectively and only 7.8% answer that the question was not applicable to them. A majority of those for whom the method is not applicable are final year students; these are most likely undergoing internship or industrial training. Alternatively, it may be because they are required to study on campus with the necessary equipment such as those who are enrolled in applied sciences.

These results not only suggest that the undergraduate students adapt well to online learning but also that most tertiary education institutions and higher learning educators in Penang have managed to carry on with classes adequately despite the disruption caused by the pandemic.

Most helpful mode of learning

However, the most dominant form of online learning is not necessarily the most helpful mode of learning for the respondents. The findings are mixed as 35.3% think that online in real time is the most helpful mode of learning while 37.2% say that it is online with recording which is the most helpful. Recorded lectures allow the students to rewind or forward parts of the lecture in order for them to better comprehend the content. Undergraduates could also watch the recorded content at their own time and convenience. By contrast, online in real-time allows students to interact with their lecturers and peers during which questions can be raised and discussed in real-time. It also compels students to pay attention to the lecture. At the same time, 21.9% of the respondents think that slides and reading materials that are sent to them by their educators have been most helpful. This is likely because written materials are

something that students can always referred to and study at their own pace and are something that most students are used to. Apparently, while most undergraduate students are generally satisfied with online learning, the most helpful mode of learning for each of them varies with preference and learning style.
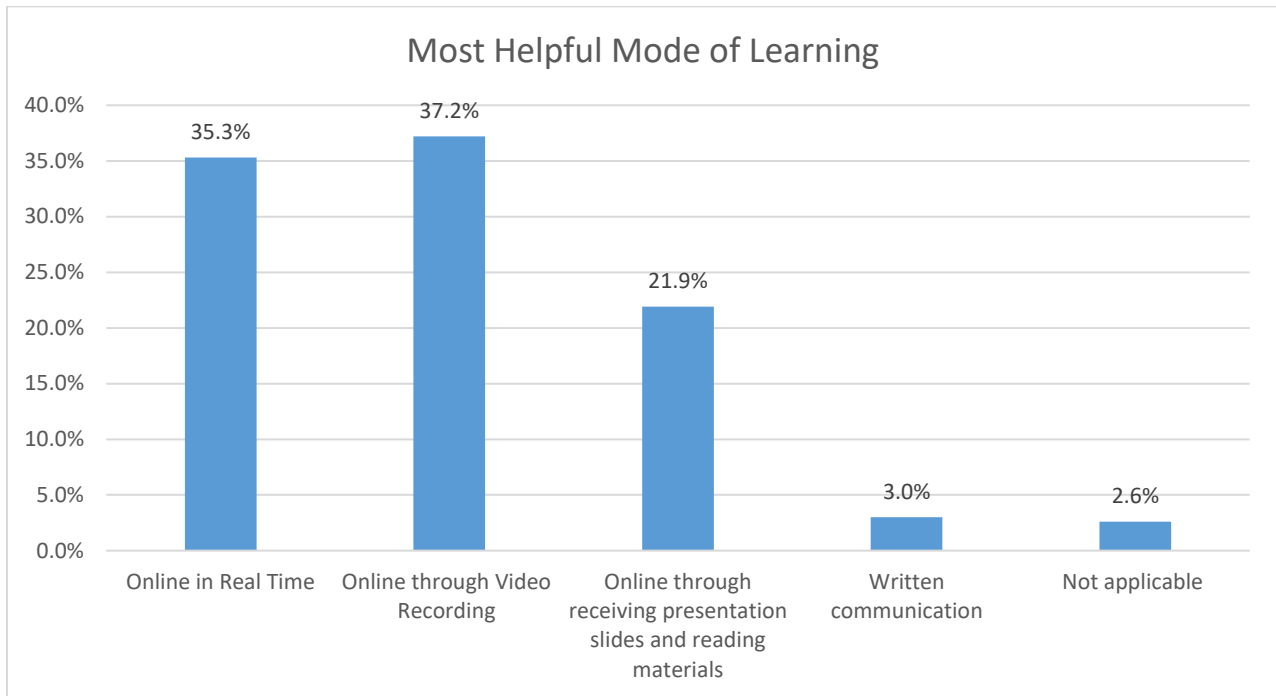
Satisfaction with lecturers and the quality of lectures

The findings also show that the respondents are generally positive about their lecturers' overall communication with them. For instance, as much as 74.3% agree that their lecturers have provided course assignments on a regular basis; 19.3% strongly agree 19.3%, and only 4.5% and 1.8% disagree and strongly disagree, respectively.

A total of 67.3% and 19.7 % agree and strongly agree, respectively, that their lecturers have provided feedback on their performance on given assignments even when on-site classes had been cancelled. At the same time, 11.1% of respondents disagree and another 1.8% strongly disagree. Likewise, there are more respondents who agree that their lecturers have responded to their questions in a timely manner than those who do not. Specifically, 68.4% agree and 19.3% strongly agree that their lecturers have responded to their questions in a timely manner, while 9.3% disagree and 3% strongly disagree.

Similarly, the percentage of respondents who agree that their lecturers are open to their suggestions and adjustment to online classes outnumber those who disagree. Those who agree and strongly agree constitute 67.2% and 20.8%, respectively. Conversely, those who disagree and strongly disagree only constitute 10.4% and 2.8%, respectively. Furthermore, 67% and 23.8% of the students agree and strongly agree, respectively, that their lecturers have kept them informed on how the examinations will be like. Likewise, 67% and 17.8% agree and strongly agree, respectively, that the grading has been fair.

The respondents are thus mostly satisfied with their lecturers' efforts in adapting to online teaching. It also indicates that many tertiary education educators in Penang have put in the effort to communicate with their students to minimise disruptions.

However, when it comes to the quality of the delivered online lectures, the responses are mixed: 34.2% of the respondents agree and 14% strongly agree that there is no difference in the quality of the delivered lecture. At the same time, as much as 36.4% of the total disagree and 14% strongly disagree.

There is also a sizable number of students who face difficulty in understanding the content of their course. As much as 43.5% face difficulty and another 8.2% much difficulty in understanding the content of their course after on-site classes are cancelled. Students who face much difficulty comprise of those from business management, engineering, accounting and finance, social sciences and medical and healthcare. These are mostly in their second, third or fourth year. Conversely, 35% of the respondents do not face much difficulty, and 11.5% do not face any difficulty, in understanding the content of their course. Comparatively, there are slightly more undergraduates who struggle with understanding the content of their course through online classes than those who do not.

Changes in workload

The workload of the respondents has also changed during the pandemic. The findings show that many students face heavier workloads. Specifically, while 31.6% of the respondent feel that their workload has gotten heavier, 13.8% reply that their workload has gotten significantly heavier. The latter are mainly undergraduates in their second, third or fourth or final year of studies. These include those enrolled in engineering, accounting and finance, information technology, business management and administration and medicine and health care. They come from both public and private institutions. By contrast, only 16.4% feel that their workload has gotten lighter and 3.7% that their workload has gotten significantly lighter. Meanwhile, 30.6% reply that their workload remains the same; 3.6% reply that the question was not applicable to them.

Changes in Workload
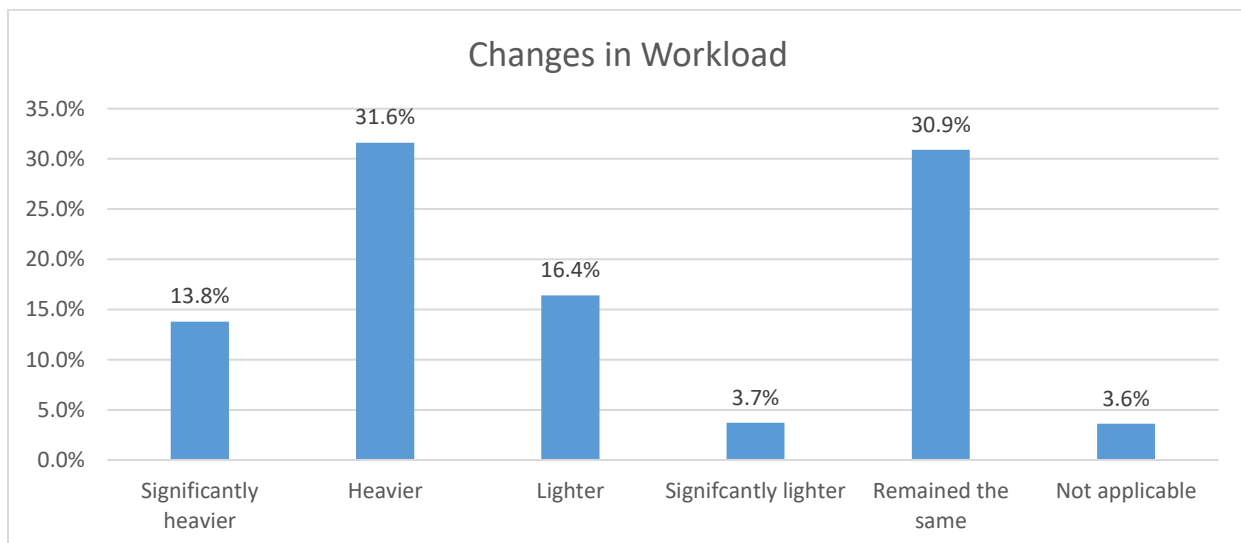
Impact of cancelling on-site classes on learning experience

Online learning is arguably a new experience for many undergraduates since there is an absence of face-to-face interaction with peers and lecturers. To tease out how online learning impact the learning experience of the undergraduate students, the survey poses a few statements to which the respondents are to reply "Strongly Agree", "Agree", "Disagree" or "Strongly Disagree".

For example, the survey asks whether undergraduates are affected by the lack or absence of practical learning such as laboratory work, mock trial, and face-to-face discussions. The findings show that 40.9% of the respondents have been affected by the lack of practical learning and 16.7% strongly believe that they have been affected. However, 24.5% of the respondents state that they have not been affected, and 14.5% believe strongly that they have not been affected by the lack of practical learning. Only 3.3% of the respondents reply practical learning are not applicable to them.
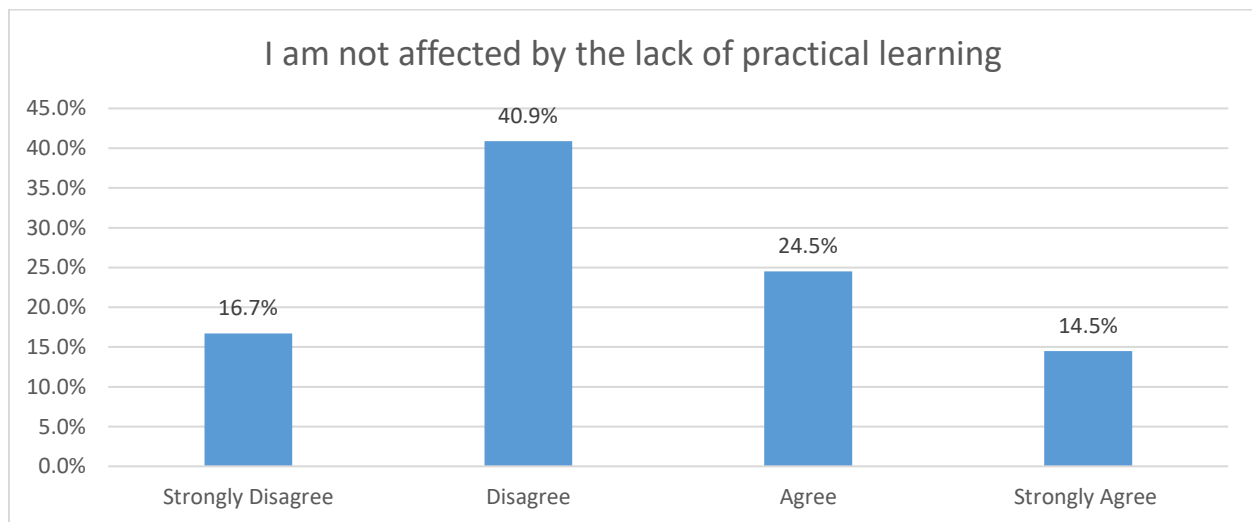
Corresponding to this finding is that there are more respondents who agree that they face difficulty with group projects than disagree. As much as 43.5% agree that they face difficulty with group projects. Another 11.5% strongly agree. This should be expected as undergraduates may have difficulty getting their course mates to contribute to their assignments. With online learning replacing on-site classes, it may be challenging ensuring that every participant contributes in their group projects. Nevertheless, 31.6% of the respondents state that they do not face difficulty with group projects and another 12.3% stated the same but more strongly.

The findings show more students think that face-to-face learning and other forms of practical learning cannot be entirely replaced by online learning than not.

Administrative Support

Most of the respondents are positive about the support they have been receiving from their institutions. Despite temporary closures, most of the respondents have been able to access resources such as the library, study materials or equipment, photocopying services, and counseling services from their tertiary institution. As much as 45% have had no problem accessing these resources while 17.8% *strongly* agree with that happy situation. However, 26.8% disagree and 6.7% *strongly* disagree that their access to these resources had not been affected.

As much as 57.2% of the respondents agree and 14.5% *strongly* agree that they have been receiving adequate support from the administrative staff of their respective tertiary institutions. This includes regular updates on the situation such as when they could return to campus, and other related information. Those who disagree and strongly disagree on this point made up 20.8% and 2.6% respectively of the respondents.

In short, the number of respondents who are satisfied with the administrative support from their respective tertiary institutions outnumbers those who are not. One may infer that most tertiary education institutions in Penang stepped up administrative support for students during the pandemic.

Overall learning experience

Most of the respondents think that they are receiving sufficient education or training for their future employment. A total of 52.8% and 17.1% agree and strongly agree, while 23% disagree and another 4.5% strongly disagree with that claim.

Respondents were also asked whether they think that their tertiary education experience has been hampered by Covid-19. The results are mixed. A total of 33.8% of the students think that their learning experience has been hampered by Covid-19, while a further 21.6% feel strongly that such has been the case. At the same time, 27.5% of the respondents do not think that their learning experience has been impacted negatively by Covid-19. Also, as much as 14.5% feel strongly that Covid-19 has not affected their learning experience.

An overwhelming 79.6% of the respondents think that being in campus is important to their educational experience and only 20.4% of the respondents think that it is not.

Being in campus is important to one's educational experience

Yes 79.6%
No 20.4%
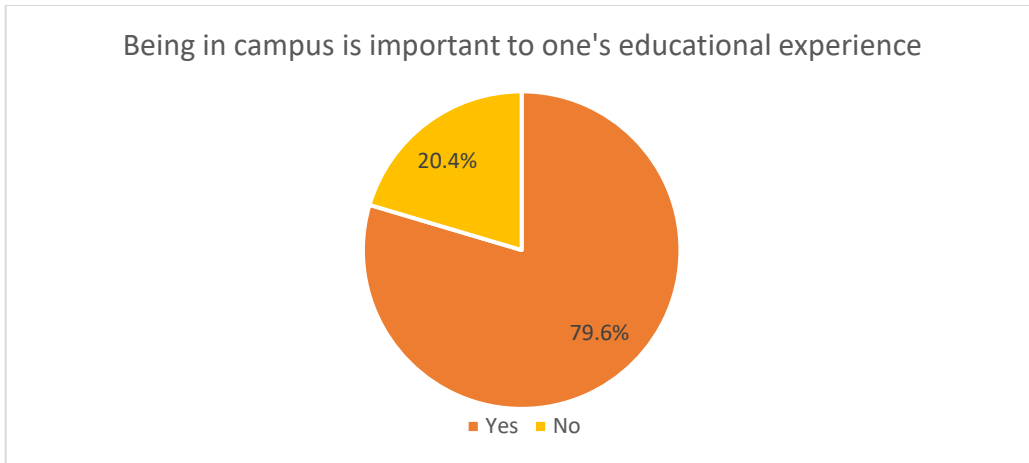
2. Social and Emotional Life

	Joyful	Excited	Determined	Frustrated	Anxious	Tired
Never	5.2%	8.5%	5.2%	8.6%	8.2%	4.4%
Rarely	25%	27.5%	21.6%	26%	24.5%	15.2%
Sometimes	45%	40%	48%	39%	43.1%	37.5%
Often	19.3%	19.7%	19.7%	20.8%	19.7%	24.1%
Always	5.6%	4.0%	5.6%	5.6%	4.5%	18.6%

The temporary closure of campus and the abrupt transition to online classes affects the social and emotional condition of the students. Although feelings fluctuate and are affected by external and internal factors, the frequency of a particular type of emotion still provides an indication of the emotional wellbeing of the respondents. Thus, respondents are asked how often they feel joyful, excited, determined, frustrated, anxious and tired when attending and preparing for classes since the outbreak of Covid-19.

Proportions of students replying "Sometimes" to each of the emotions are as follows: joyful (45%), excited (40%), determined (48%), frustrated (39%), anxious (43.1%) and tired (37.5%).

Where the students answer "Always" to the list of emotions, the percentages are as follow: joyful (5.6%), excited (4.0%), determined (5.6%), frustrated (5.6%), anxious (4.5%) and tired (18.6%). A lot of undergraduates feel tired either sometimes (37.5%), often (24.1%) and always (18.6%) while preparing or attending class.

	Personal Physical Health	Personal Mental Health	Studies	Family and relationships	Employment prospects
All the time	17.8%	20.8%	22.3%	15.2%	24.1%
Most of the time	20.8%	20.4%	33.1%	21.2%	25.7%
Sometimes	36.0%	30.1%	32.3%	30.5%	34.6%
Occasionally	15.6%	16.4%	8.5%	17.5%	10.0%
Never	9.7%	12.3%	3.7%	15.6%	5.6%

To further tease out how frequent undergraduate students worry about their various personal circumstances, the survey categorised a few categories of concern. These are 1) personal physical health, 2) personal mental health, 3) studies, 4) family and relationships and 5) employment prospects and professional career in the future. Respondents are given the option to answer either "All the time", "Most of the time", "Sometimes", "Occasionally" or "Never".

Most answer "Sometimes" for these various categories – personal physical health (36%), personal mental health (30.1%), studies (32.3%), family and relationships (30.5%), employment prospects and professional career in the future (34.6%). However, there is a significant higher number of respondents who worry about their employment prospects (24.1%) and studies (22.3%) all the time as compared to other concerns.

Following that, respondents also show concerns about their personal physical health and mental health. 17.8% worry about their personal physical health all the time while 20.8% worry about it most of the time. Next, 20.8% worry about their personal mental health all the time and 20.4% worry about it most of the time. Although there are also respondents who answer that they never really worry about personal concerns, the percentages are low – personal physical health (9.7%), personal mental health (12.3), studies (3.7%), family and relationships (15.6%) and employment prospect (5.6%).

Lastly, employment prospects and studies are the two main concerns that respondents worried most about.

The findings show that 39% of the respondents miss meeting old friends and making new friends on campus. Another 25.7% miss attending on-site lectures and 10.4% miss joining student clubs and extracurricular activities. The rest of the respondents reply that they miss all of the above. Some add that they miss having hands-on learning, instant interaction with lecturers, exercising and hanging out with friends on campus. As much as 16% reply that they miss nothing about campus life.

A high percentage of 76.7% think that being in the campus is important to their social and emotional wellbeing, while 23.3% think otherwise.

The last question on the second thematic area examines who students turn to when they need help or someone to talk to during the Covid-19 pandemic. The highest percentage are for those who turn to friends (76.2%) and family (63.6%). Following that are either their boyfriend or girlfriend (21.6%). There is an equal number of respondents who turn to counselors (6.7%) or to people they meet online (6.7%). As much as 14.8% of the respondents say that they turn to no one when they need help or need someone to talk to during the Covid-19 pandemic.

From these results, it can be argued that constant communication with peers and family is important for the social and emotional wellbeing of the undergraduates. It is also interesting to note that although most tertiary education institutions provide counseling services, only 6.7% of the respondents will seek such service.
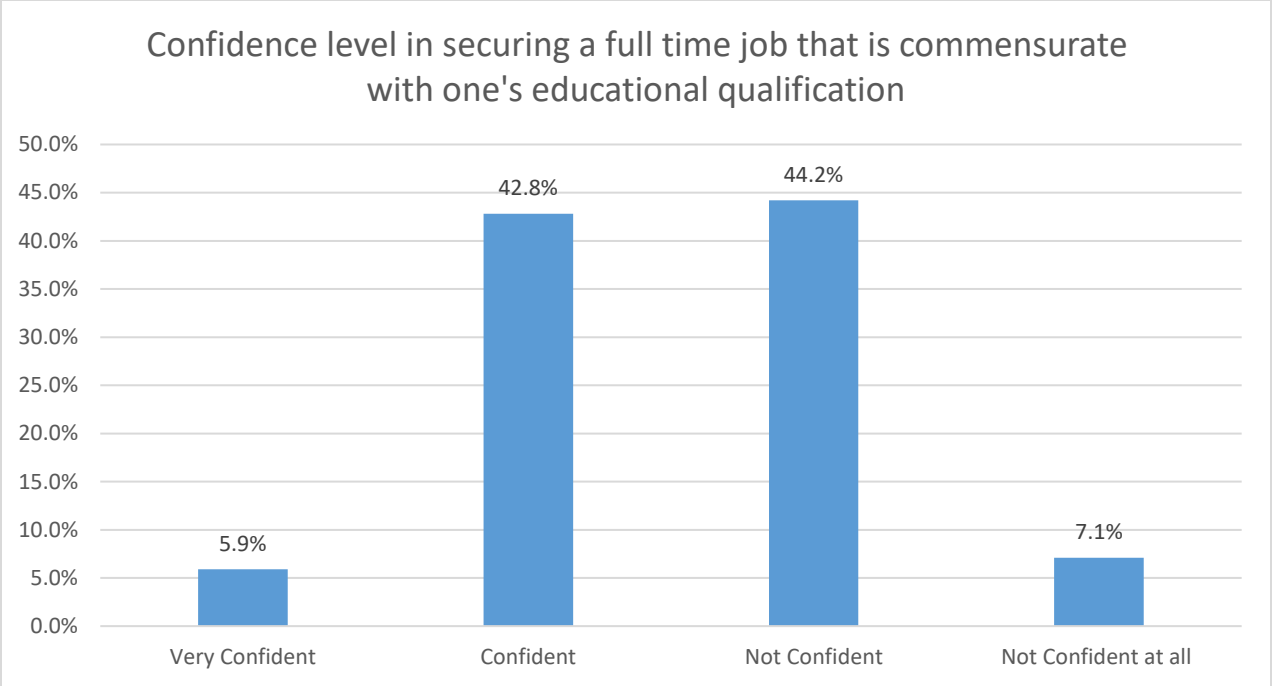
3. Employment Prospects

The third thematic area focuses on how respondents view their employment prospects in light of the disruption caused by Covid-19. This part of the survey seeks to understand whether the respondents are confident in securing a job that is compatible with their educational qualification and whether they think their employment prospects are hampered by Covid-19.

In general, respondents who think that their tertiary education qualification is important in securing a full-time job outnumber those who think otherwise. A majority of 52% strongly agree that their tertiary educational qualification is important in securing a job while 45% agree. Thus, positive replies thus come from as much as 97% of the respondents. Only 2.6 % disagree and 0.4% strongly disagree. This also indicates that young people in Penang value tertiary education greatly and see it as an important qualification for future prospects.

Tertiary education qualification is important in securing a full-time employment
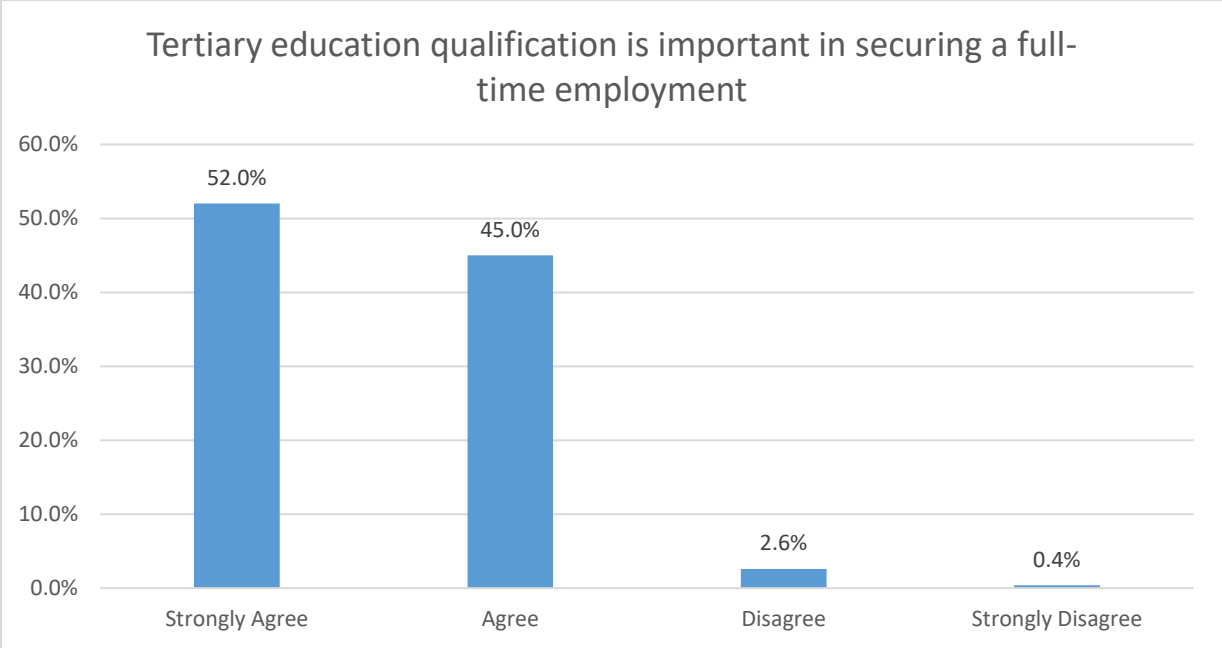
The story differs though when it comes to their confidence in securing a full-time job that is commensurate with their qualification. Now, only 44.2% state that they are confident and another 5.9% are very confident. As much as 42.8% of the respondents reply that they are not confident and another 7.1% state that they are not confident at all. Respondents who are very confident in securing a job that is commensurate with their education qualification are mainly enrolled in the engineering and medicine and health care discipline, with only two exceptions.

Respondents who are not confident at all tend to be enrolled in the accounting and finance, business management, information technology and linguistic; they are mainly students who are in their final year.

Confidence level in securing a full time job that is commensurate with one's educational qualification

| Category	Percentage
Very Confident	5.9%
Confident	42.8%
Not Confident	44.2%
Not Confident at all	7.1%

Respondents are generally confident about securing a full-time job in the first few months upon graduation: 40.9% think that they can secure a full-time job within 3 months and another 42% think that they manage that within 3 to 6 months. Only 17.1% think that they need 6 months and above to secure a full-time job.

Separately, 85.1% are willing to work in the gig-industry or do part-time job while seeking full-time employment. Meanwhile, 14.9% are not willing to do so.

The survey also shows that 56.9% of the respondents are willing to work in an industry that is not compatible with their educational qualification, while 43.1% are not willing to do so.

Another finding is that 19.7% of the respondents are willing to build their own start-up upon graduation. The same proportion—19.7%—are unwilling to build their own-start-up upon graduation. As much as 60.6% reply "maybe" to this question.

Finally, when asked if Covid-19 has hampered their employment prospect, the respondents tend to agree more than disagree. As much as 60.6% agree and 29% *strongly* agree that Covid-19 has hampered their employment prospects. Only 9.3% disagree and 1.1 % *strongly* disagree with this statement.

Covid-19 has hampered undergraduates' employment prospects

- Strongly Agree: 60.6%
- Agree: 60.6%
- Disagree: 9.3%
- Strongly Disagree: 1.1%
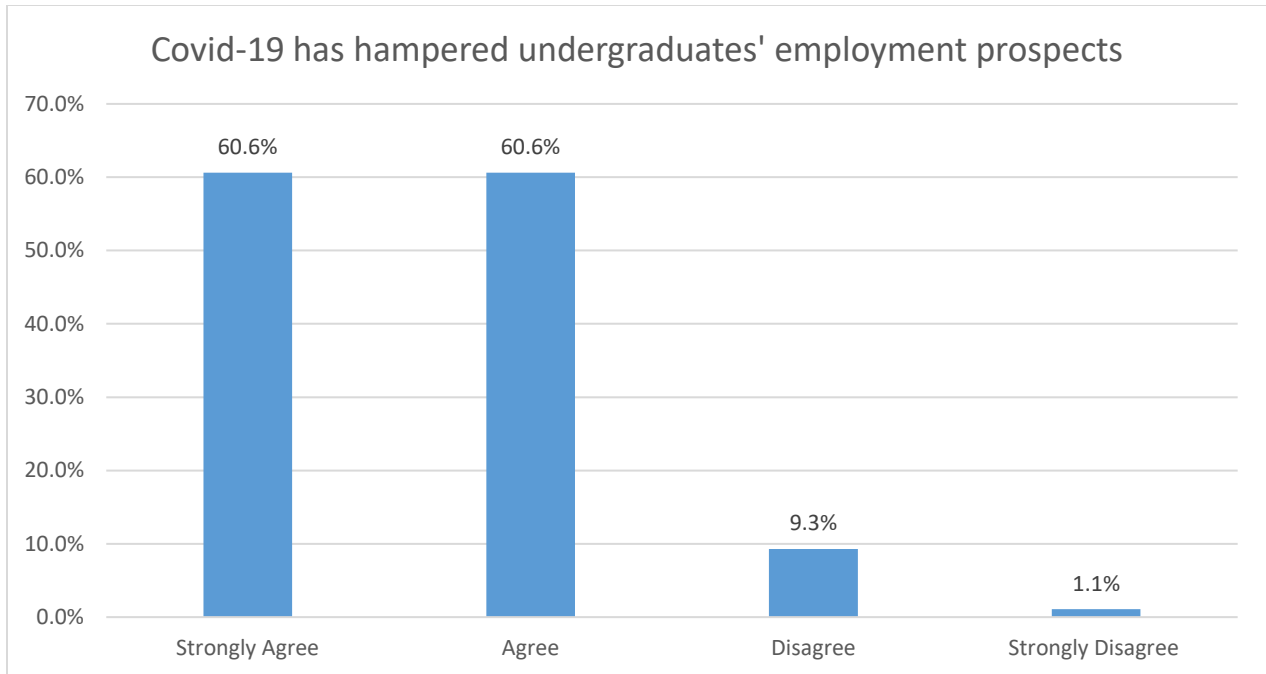
In short, although online teaching and the administrative support are evaluated positively by students overall, online classes present major challenges to students. A significant proportion of the students have encountered heavier workloads and difficulties in group projects since the transition to online learning. There is also a high percentage of respondents who are affected by the absence of face-to-face learning. Likewise, there are more students who think that their learning experience is hampered by Covid-19 than those who think otherwise. What is most distinctive from the findings is that close to 80% of the undergraduate students think that being on campus is important to their overall educational experience. Likewise, 76.7% think that being on campus is important for their social and emotional well-being.

In addition, studying online has also resulted in new challenges for the social and emotional life of the students, with employment prospects and studies being their major concerns. What is most concerning is that a relatively high proportion of respondents often find themselves feeling tired while preparing or attending class. Finally, the survey also found that there is a significantly high percentage of respondents who think that their employment prospects have been hampered by Covid-19. However, it must be emphasised that 56.9% of the respondents are willing to work in an industry that is not compatible with their educational qualification.

Policy Recommendations

As undergraduates are gradually returning to campus for physical classes, tertiary education institutions need to prepare and adjust to the pandemic recovery phase. Recommendations proposed below are aimed at helping students, academic staff and policy makers in reopening universities and colleges, in Penang in particular and Malaysia in general.

The way forward is to embrace hybrid modes of learning and a holistic approach to education. While physical classes and interactions remain important for teaching and learning, universities have to seriously consider and develop online classes as a medium that is here to stay. The recommendations are divided into three parts: Academic life, Social and emotional life, and Career prospects.

1. Academic Life

This study indicates that students have adapted well to online learning during the pandemic. By shifting classes online, most higher learning institutions in Penang have managed to conduct courses despite the disruption. However, online classes should not in the longer term be the only strategy for adapting to the new reality. Education strategies need to strike a balance between deepening the process of learning and ensuring the safety and wellbeing of students and staff.

Embrace hybrid learning
Moving forward, tertiary education institutions should develop hybrid learning as a long-term feature of higher education. The objective should be on maintaining constant interaction between lecturers and students to enhance the learning experience while reducing stress and digital fatigue for both educators and students. Tertiary education institutions should conduct training courses for lecturers and introduce them to various digital devices for conducting online teaching. Such institutions should also allow teaching staff some degree of flexibility in scheduling physical and virtual classes. Likewise, students can be given the option to be physically present in class or to join virtually. There is a need to recognise that there are certain disciplines such as applied sciences which require specific equipment and hands-on experimentation. Physical classes in such cases are necessary.

Rethink the one-person teaching model.
Tertiary education institutions should also reconsider the one-person teaching model. As an option, hiring tutors or conducting smaller classes may be helpful to the overall learning experience of students.

Develop infrastructure and invest in online learning tools
Infrastructure encompasses two aspects—physical infrastructure and digital infrastructure. Universities should reorganise their space to accommodate hybrid learning. For instance, outdoor spaces can be adapted for students to do activities and classes, as an alternative to being confined inside the classroom or lecture hall. To achieve optimum hybrid learning, higher education institutions also need to invest in online learning tools and ensure high speed internet connectivity and accessibility throughout their campus. Digital infrastructure also involves developing or adopting digital programmes that are specifically tailored for online learning.

Partnerships with private companies

Tertiary education institutions should take this opportunity to partner with public institutions and private companies to tackle challenges related to technologies, infrastructure, and digital skills training. Such partnerships would help university staff transition towards digitalisation. Students in related fields such as Information Technology could also be sent to private companies for industrial training to receive practical experience.

Set up study rooms

The state government could consider partnering with universities or private institutions to set up study rooms with high-speed internet connections in various locations outside the universities, for students to study. This would minimise the number of students on campus and provide students with alternative conducive places to study. To cover costs, the university could charge a minimal fee. Study rooms would provide students with a quiet place to study outside their campus or home, and they would not have to worry about having steady access to the internet.

2. Social and Emotional Life

The pandemic has inevitably hampered students' social and emotional life. All stakeholders in the higher education industry need to develop a holistic policy to manage the psychological impact of Covid-19, or of future pandemics, on students.

Provide counselling service

Universities and colleges should provide psychological services either face-to-face or remotely, and such services should be made known to students. Another way to make counseling services more easily available is to create apps that allow students to communicate anonymously with their counselors.

Provide counseling webinars and guidance

Although most tertiary education institutions provide counseling services, only 6.7% of the respondents would turn to a counselor when they need someone to talk to. One of the reasons for this resistance to counselling may be that students are not comfortable being registered as having counselling. Thus, counselling services within tertiary educational institutions could consider providing guidance for students to find suitable solutions to their academic, social and emotional, and career challenges. Besides, webinars on mental health issue and coping mechanisms can be organised for students as well.

Organise alternative programmes

Universities should develop alternative programmes to reduce anxiety and other mental health issues. For instance, life skills and therapy programmes, music jamming sessions, fitness challenges, cultural activities and other forms of creative expression should be promoted. These should be considered as an alternative approach to help students manage their mental wellbeing. The state government could also partner with various tertiary education institutions, private agencies, and freelance instructors to introduce such programmes.

3. **Career Prospects**

Despite the learning difficulties caused by the pandemic, a significantly high proportion of undergraduate students in Penang, as this study finds, still believe that their tertiary education qualification is important in securing a full-time job in the future. Since the majority of the students surveyed are willing to do jobs that are not commensurate with their qualifications, there are possibilities for the government to partner with various industry experts to explore ways to create job opportunities for new graduates, even on part-time or short-term basis. Creating job opportunities and preparing students with skills that fit the changing situation in the economy, the labour market, and society at large are highly important. Necessary steps for stakeholders to take are as follows:

Understand labour market trends
Tertiary education institutions need to constantly monitor market trends and ensure that their students are properly trained to meet market needs. At the same time, undergraduate students should be exposed to such information as well so they can see what sort of upskilling is needed for them to be competitive.

Reskill and upskill
To aid the recovery progress in the long term and to tackle the problem of marketability, particularly for students enrolled in less crucial disciplines, the state government should provide reskilling and upskilling programmes to ensure that graduates who are joining the labour market have the right and adequate skills.

Identify industries and sectors
To facilitate career moves, it is also important to identify which industries are in need of skilled workers. Universities should collaborate with industry players by organising career fairs to inform students about the latest trends in the job market, especially the new sectors that have emerged as a result of the pandemic.

Pivot to other industries
Living in uncertain times requires students, to be nimble. The survey finds that 56.9% of the respondents are willing to work in an industry that is not compatible with their educational qualification. However, they may not know how to pivot to a new industry. Therefore, tertiary educational institutions should encourage students to participate in cross-disciplinary programmes and encourage students to do internships in industries outside of their disciplines. Another way to help the students is to introduce them to career fairs and to experts who can coach them to market their skills in other industries.