Navgurukul Social Impact Study:

Final report

Just Economics

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1. About Navgurukul

Navgurukul was founded in 2016 with the aim of tackling inequality in higher education by offering a high quality, one-year residential course in software programming to underserved populations.

Attendees are usually the first person in their families to attend higher education and are guaranteed a job on completion. The programme has a unique pedagogy that seeks to build confidence and encourage independent thinking. The programme is founded on a holistic approach, with a focus on developing English language, work readiness and on gender sensitisation. There is a hope that some of those on the programme will become changemakers in their communities. The program is explicitly aspirational, with the aim of equipping underserved young people with the skills, confidence and experiences to develop careers in a high paying industry.

2. Aims and methodology

Navgurukul was selected for a 'deep dive' evaluation as part of a larger study examining the Microsoft India Philanthropies portfolio for 2019/20.

The primary research for the 'deep dive' evaluation started with a semi-structured interview (May 2020) with the founder of Navgurukul to develop the programme's Theory of Change (ToC).

What is a Theory of Change (ToC)?

A ToC sets out the relationship between delivered activities and short, medium and long-term changes for key stakeholder groups. ToCs also consider the mechanisms by which an intervention works (or not) and how context enables or limits the success of a programme (Pawson et al. 2005). In this way, they assist with supporting continuous improvement. ToC approaches are widely considered best practice in evaluation. They are often carried out as the first step on the journey to developing a measurement framework as they are vital to identifying the correct outcomes and indicators for evidencing effectiveness.

The development of the ToC enabled the key outcome areas to be identified for the primary beneficiaries (i.e. programme participants). An online survey was developed in the Survey Monkey platform to collect data on how often, and to what extent, these outcomes are experienced by graduates of Navgurukul.

Wherever possible, survey questions from validated instruments (e.g. the Warwick-Edinburgh Mentwal Well-Being Scale) were used. The survey questions related to the following outcome domains:

- Quality of the programme
- Satisfaction with the programme
- Digital, computing and programming skill development
- English language competency
- Work-readiness and work opportunities
- Employment and income
- Confidence
- Wellbeing
- Gender attitudes

Outcomes data is most robust when collected at multiple points in time: ideally, prior to starting the programme (baseline), at programme completion (end point) and at appropriate time intervals following completion (longitudinal follow-up). Such data collection for a programme such as Navgurukul would need to take place over at least 12-24 months before yielding outcome information.

To provide data in a more timely fashion, the decision was made to survey alumni (i.e. previous graduates) rather than follow the current cohort. In order to assess distance-travelled, or change, in relation to each of the outcome domains, the respondents were asked to recall their position immediately prior to starting Navgurukul as well as their position currently.

The survey link was provided to alumni (aged 18+) from the programme between 2016-2019 (note that the majority of the 2019 cohort have not yet graduated) by Navgurukul via SMS. The survey was live for 3 weeks in June 2020, which coincided with the Covid-19 outbreak in India. Respondents were asked to provide informed consent. All responses were provided anonymously.

All data analysis was undertaken by Just Economics.

3. Survey findings

This section sets out the findings from the survey. It is structured as follows:

- About the sample
- Demographics
- Perceptions of the programme
- Participant outcomes

3.1 About the sample

A total of 33 past students from Navgurukul completed the survey in June/July 2020. This represents 37% of those who have graduated from Navgurukul since 2016. (Note that only graduates aged 18+ were eligible to complete the survey due to the requirements for informed consent.)

Slight over half the respondents were female (52%). The group were currently aged between 18 and 30, with 71% between 19 and 22 years old. No one stated that they had a disability.

All respondents started attending Navgurukul between 2016 and 2018, with most attending in 2018 (see Table 1). Almost half the students spent 7-12 months at Navgurukul while just under a third stayed for slightly longer, between 13-18 months (see Figure 1).

Table 1: Respondents by year of attendance

Year attended	% of respondents
2016	7%
2017	33%
2018	59%

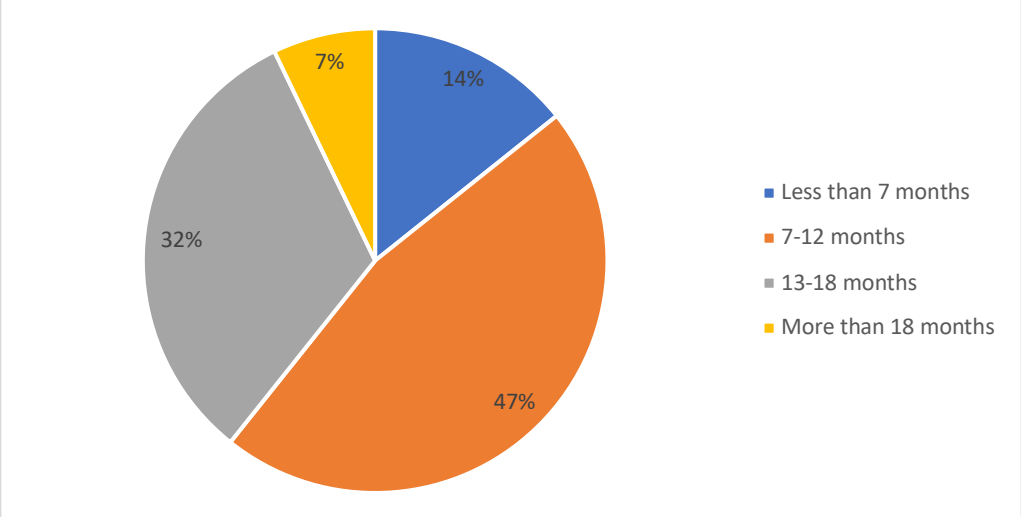

Figure 1: Length of time respondents spent at Navgurukul

3.2 Demographics

Education level

The survey respondents had a range of educational levels prior to starting at Navgurukul (Figure 2). Just over a third had passed 12th class and just under a third were pursuing college. The same proportion of students had only passed 10th class as had finished college (12%), while 9% had exited education prior to completing 10th class.

Figure 2: Highest education level prior to joining Navgurukul

Geography

Most respondents came from one of four states. Haryana and Madhya Pradesh were the two most popular origin states for students, followed by Delhi and then Bihar. Figure 3 includes stacked columns to show the proportion from each state that lived in a city, town, village, or rural area.

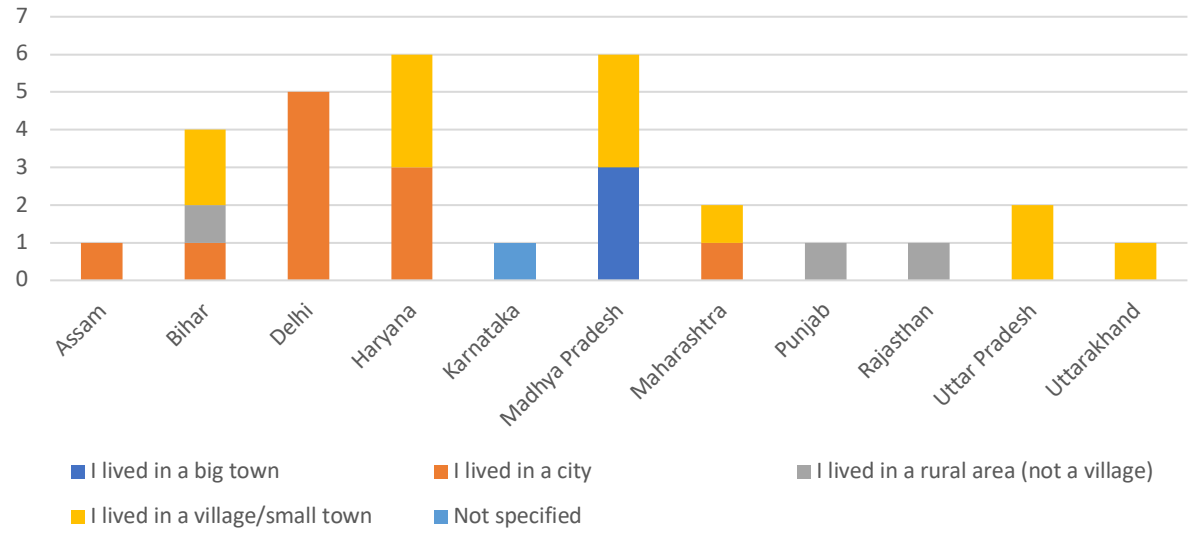

Figure 3: State/city of origin and type of area

Table 2 shows the clear movement of students from more rural areas (more rural 51%, more urban 48%) before the programme to more urban areas following the programme (more rural 23%, more urban 76%). This is most likely those relocating to take up a new job.

Table 2: Living situation before attending Navgurukul and now

Tell us about your living situation	Before attending Navgurukul	Now
I live in a city	38%	63%
I live in a big town	10%	13%
I live in a village/small town	41%	20%
I live in a rural area (not a village)	10%	3%

Access to devices

Before attending Navgurukul, only 42% of respondents had access to a computer at home and a further 15% had access to a tablet. A much larger proportion (88%) had access to a smartphone. It is worth remembering that the question asks about *access* rather than *owning* a device. Anecdotal evidence suggests there may only be one smartphone in a household likely owned by a father or older brother.

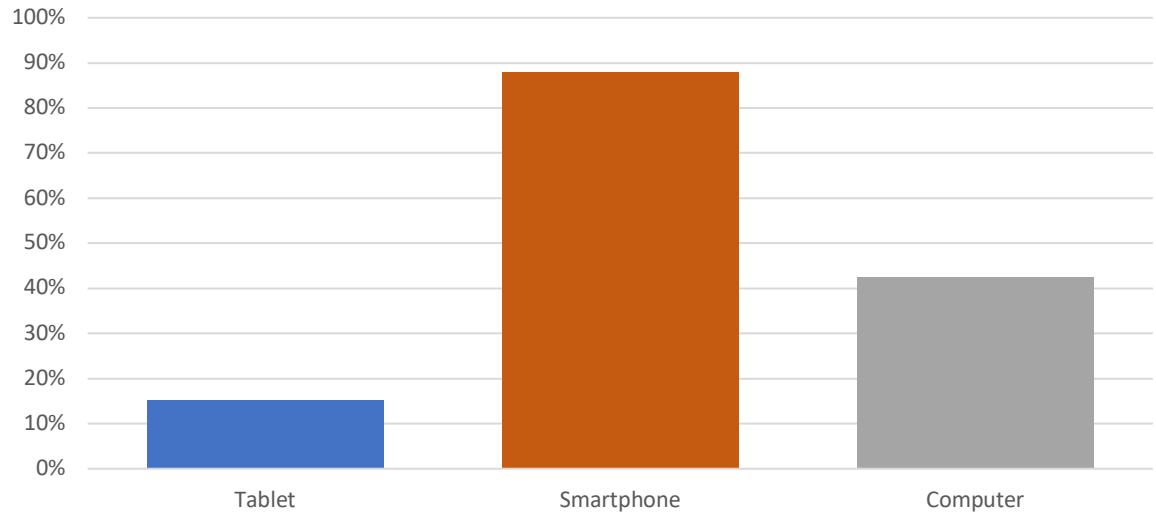

Figure 4: Percentage of students who had access to devices at home before Navgurukul

Prior training on digital skills/computing

Just under half of respondents (47%) had no previous training on digital skills or computing (Figure 5). A similar proportion (46%) had received some basic training. Only a small number had some technical computer science training (7%) and no one had undertaken advanced training.

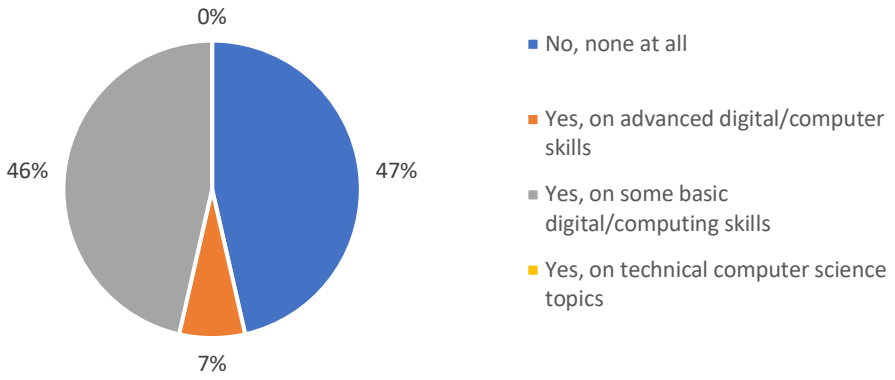

Figure 5: Prior to attending Navgurukul, did you have any training on digital skills or computing?

Reasons for attending Navgurukul

The main reasons to participate in training was as help get a job (69%) and to learn more about computers (52%) (Figure 6). This is intuitive for a course with a focus on software programming.

The chance to move away from home was the next most popular reason (41%), suggesting that for a significant proportion of students Navgurukul represented the opportunity to gain independence and start to make their own way in life.

The social element of the course does not appear to be an important driver as only 10% selected they participated to make new friends.

'My family wanted me to do it' was only selected by 1 person suggesting individuals had made their own decision to attend Navgurukul.

Other reasons given outside of the list of options were 'I was financially weak to join college' and 'I don't want to be the responsibility of my father'.

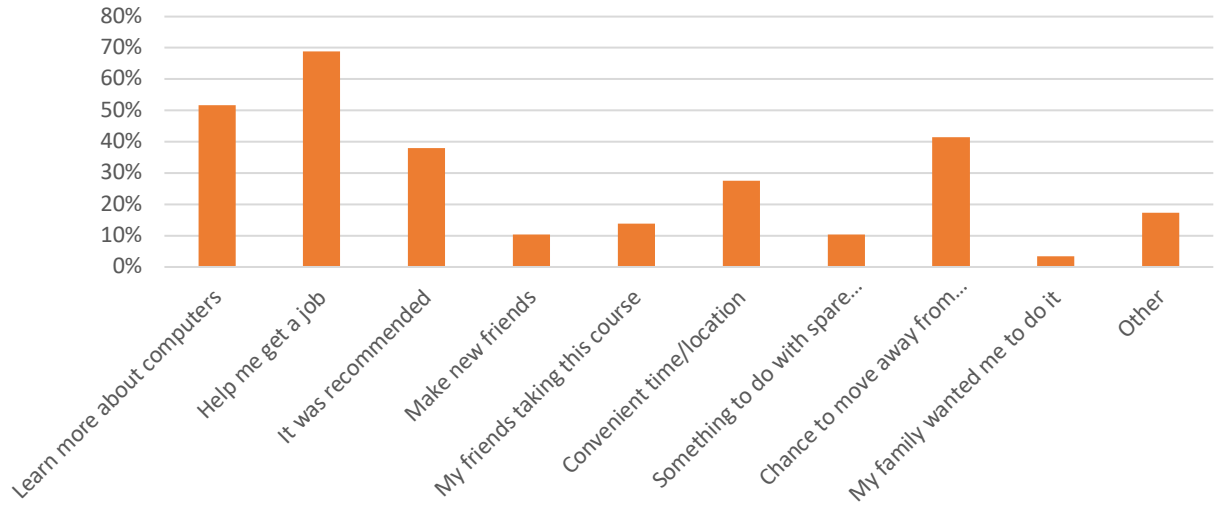

Figure 6: What were the main reasons you decided to participate in the training? (Select all that apply)

How did you find out about Navgurukul?

Students found out about Navgurukul in a number of different ways (Figure 7). The most common was from a teacher (29%) or a friend or family member (29%). Other answers given outside of the options presented included 'Google search' and 'from Navgurukul e-learning platform Saral'.

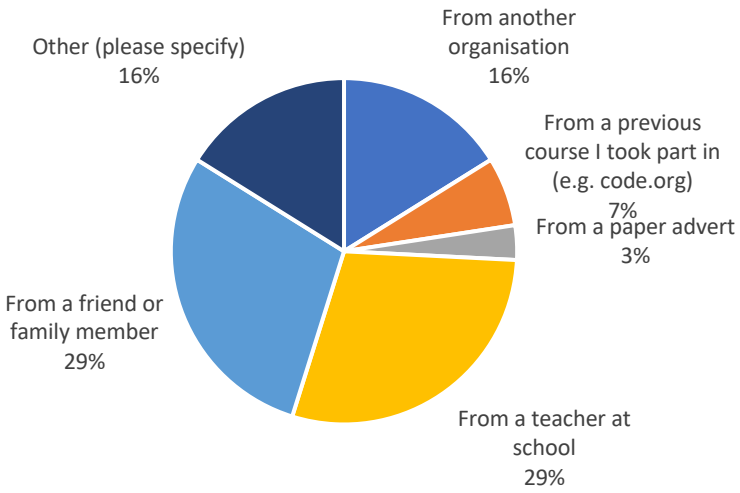

Figure 7: How did you find out about Navgurukul?

3.3 Perceptions of the programme

Figure 8 shows that respondents rated Navgurukul very highly. 100% state that the programme helped them find a job, and 100% would recommend it to others. Respondents rated the programme 74/100 in terms of how much they learnt and 84/100 in terms of enjoyment. The residential nature of the programme is considered an important element of the project, with respondents scoring it 85/100 in terms of contribution to the benefits they experienced.

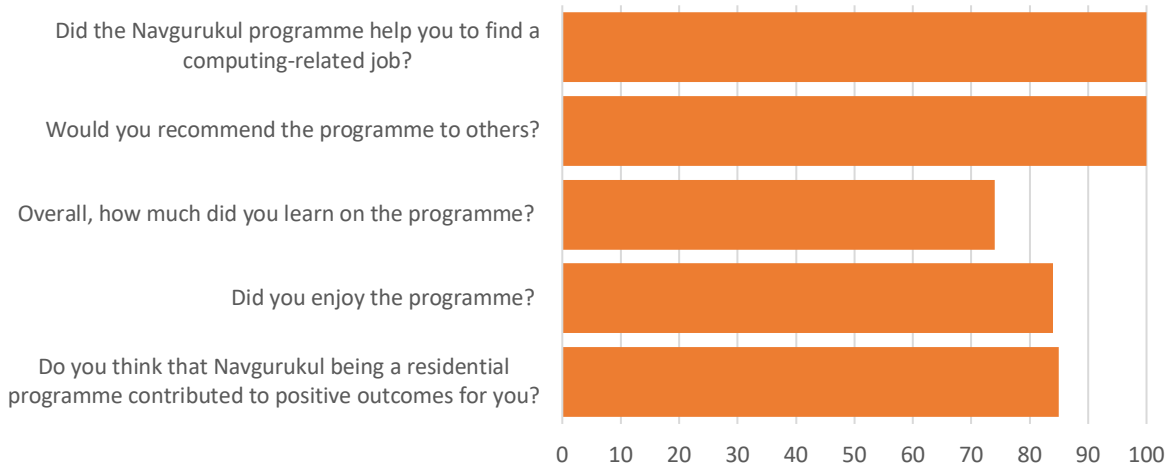

Figure 8: Ratings of Navgurukul (out of 100)

Those who would recommend the programme were asked why. Responses included the following:

'Join the program, be a better human being, get chances of exploring possibilities',

'It is a very good program…the social skills we learned, understanding each other, about society…,the all around development with the coding skill is very very helpful',

'because now I have the skills… I can take anywhere…will help them to earn money and …see outside world'

Respondents were asked to rate Navgurukul's performance on a variety of measures on a scale from poor to excellent (Figure 9). The feedback is overwhelmingly positive and no one selected 'poor' for any element. Highest scoring was Navgurukul's welcoming environment which was scored as 'excellent' or 'very good' by 92% of respondents. The next highest scoring element was help if someone was struggling rated 'excellent' or 'very good' by 89%.

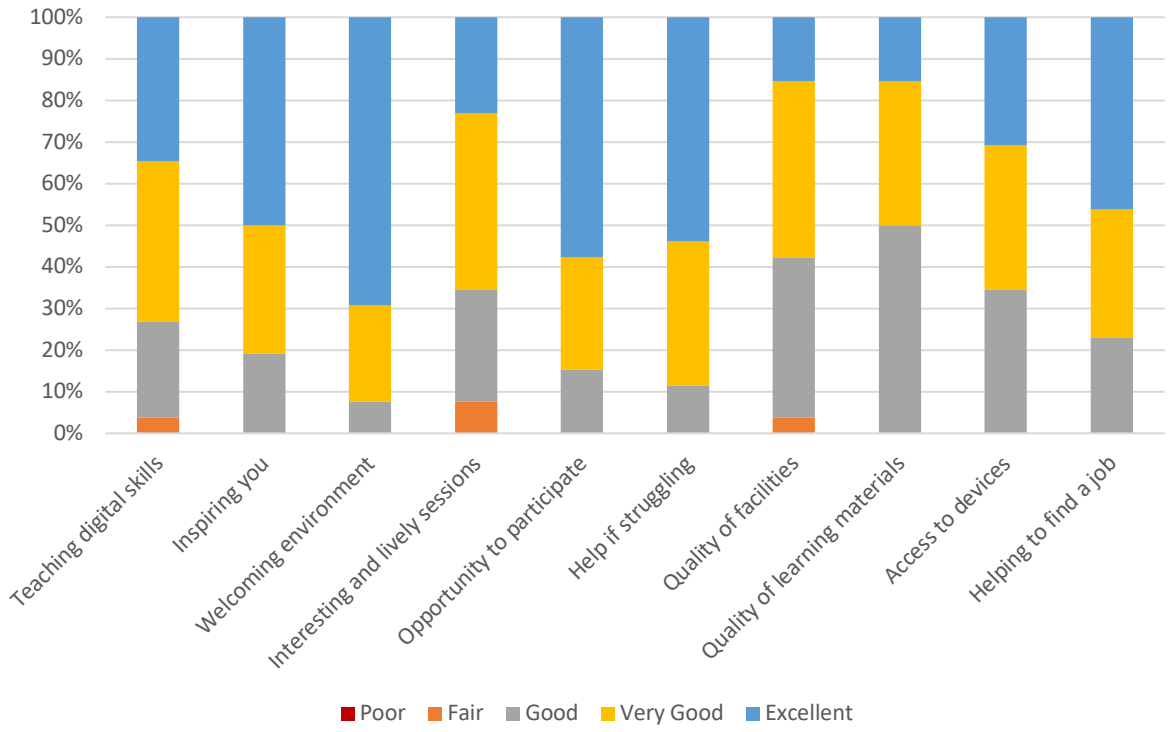

Figure 9: How would you rate Navgurukul and the programme for the following?

The two lowest scoring elements were based around quality – facilities and learning materials, although the vast majority did still report these as at least 'Good'.

3.4 Participant outcomes

Employment

Navgurukul provides a job guarantee, stating that every graduate will be supported into employment. As the survey was completed by 37% of graduates, data on the number finding jobs upon graduating was obtained for the entire cohorts from 2016

to 2018 (majority of the 2019 cohort were still participating in the programme and so excluded from the analysis). This is set out in Table 3.

Navgurukul has a high success rate with 82% of individuals who start the programme graduating and 77% finding work.

Table 3: Numbers starting, dropping out, graduating and finding employment by year

Year	Starting	Dropout within 3 months	Dropout after 3 months	Graduating	Placed in work
2016	0	0	0	0	0
2017	7	2	1	4	4
2018	102	14	3	85	80
Total	**109**	**16**	**4**	**89**	**84**
% of those starting	**-**	**15%**	**4%**	**82%**	**77%**

Income

Respondents were asked to report on their household income prior to attending Navgurukul and their individual income for the first job post-Navgurukul and their income now.

Table 4 shows the average earnings for Navgurukul alumni by how long they have been working after graduating from the course.

Figure 10 shows the average salary increase (from first job post Navgurukul to now) by length of time since completing Navgurukul.

Table 4: Average monthly earnings by length of time since finishing Navgurukul

Length of time since finishing Navgurukul	Average monthly earnings
6-12 months	20,667
12-18 months	28,667
2 to 3 years	42,500

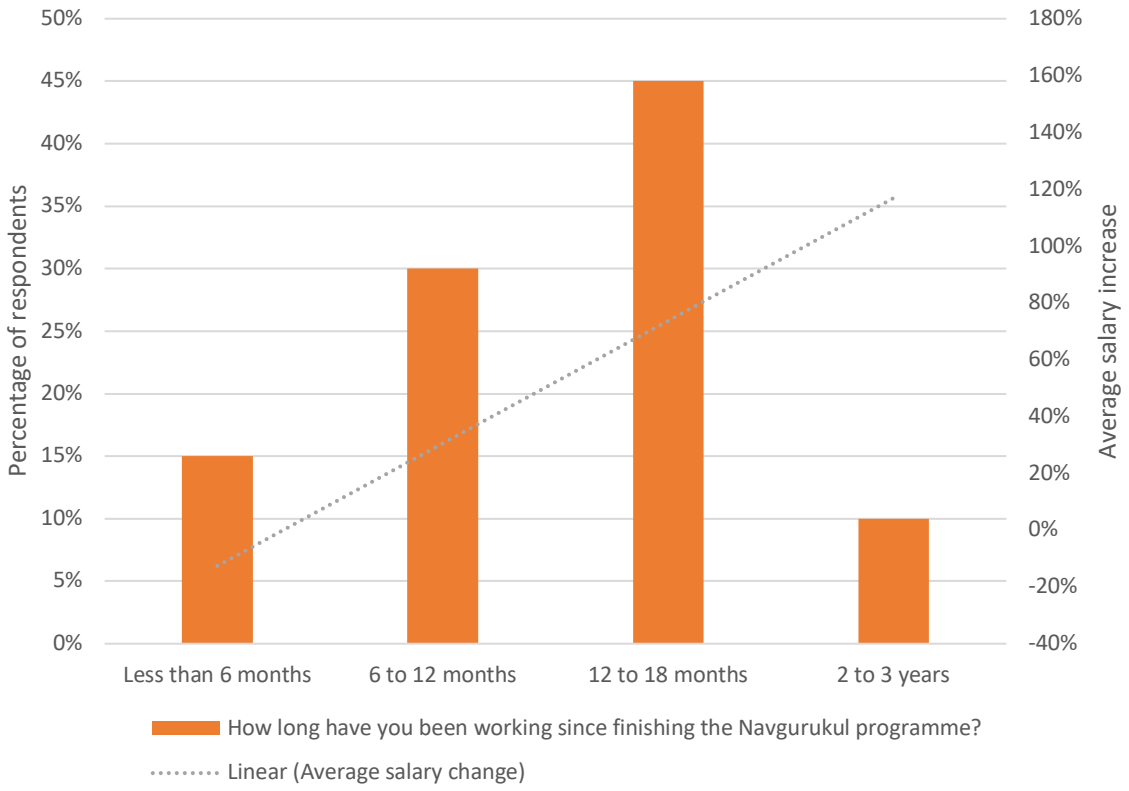

Figure 10: Length of time working since finishing Navgurukul and average salary change from first job following the programme to current job

Both the table and chart show that the longer respondents have been working following Navgurukul, the greater their average salary. Reponses revealed a wide range of salaries from an individual currently earning 12,000 (monthly) who finished the programme 6-12 months ago to someone earning 50,000 (monthly) who finished 2-3 years ago.

The average salary increase for an individual who left the programme less than 6 months ago is just over 5% (relative to first job after leaving Navgurukul), while it is over 120% for someone leaving 2-3 years ago. This suggests that Navgurukul alumni can progress and often progress rapidly.

Importantly, the starting salaries for graduates from Navgurukul represented a significant increase on their household incomes prior to attending Navgurukul. On average, the salary of their first job on completion of the programme was 102% of household income (that is, on average, the income of households doubles when graduates finds their job).

Please note that some caution is required when interpreting the income data. The sample was cleaned to remove anyone who had not answered the income questions fully and the one respondent who had moved from employment to unemployment. It should be noted that those who skipped this question may have done so because they may not be proud of their salary or they may have skipped it for another reason (e.g. Navgurukul students return a portion of their salary for future students in the form of a standing order and some may not have wanted to disclose their true salary in case this led to an increase in their standing order).

Knowledge and opinions

Computing

Figure 11 shows that respondents believed they had considerably improved their computing knowledge and skills as a result of attending the programme. The biggest improvements were reported in 'programming' and 'coding' with both seeing a nearly two-point increase. The smallest increase is in basic computing tasks with a less than one-point increase, reflecting that most students already had a higher starting point for these basic skills.

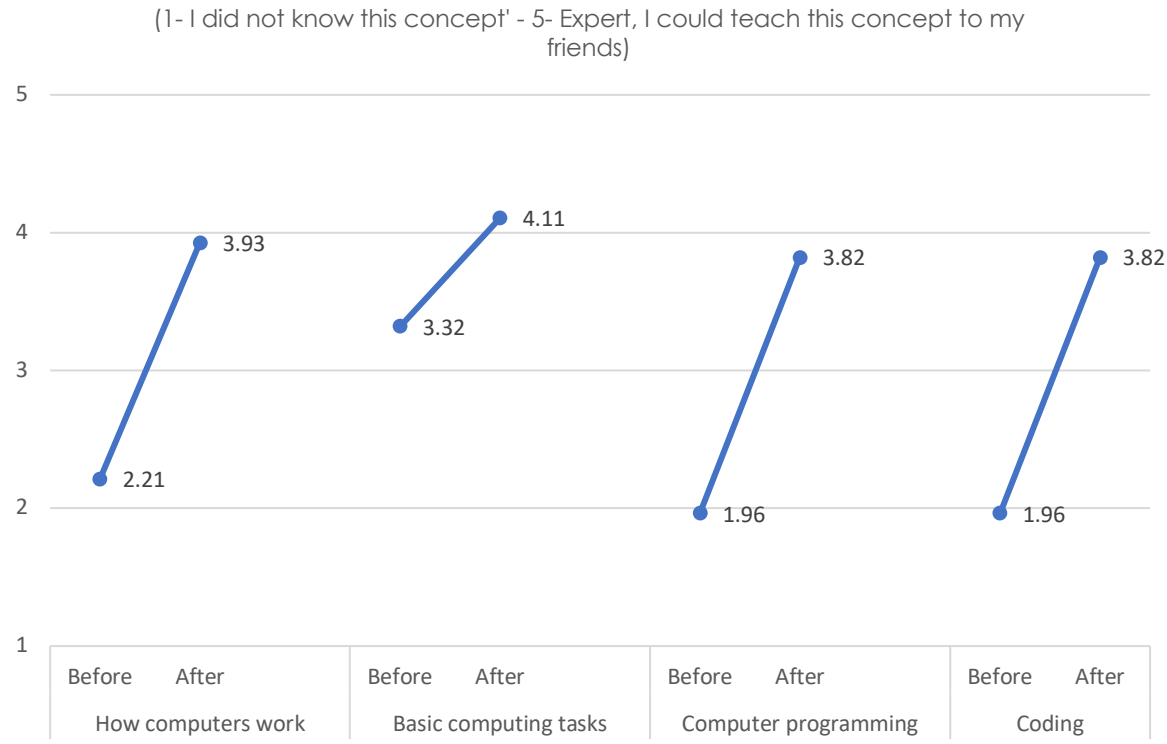

Figure 11: Average score of how students rate their computing knowledge and skills before and after the programme

Ambitions and soft skills

Figure 12 shows a general improvement in how respondents feel about themselves and their capabilities following the programme. This suggests that Navgurukul plays an important role in not only developing technical skills but also softer skills.

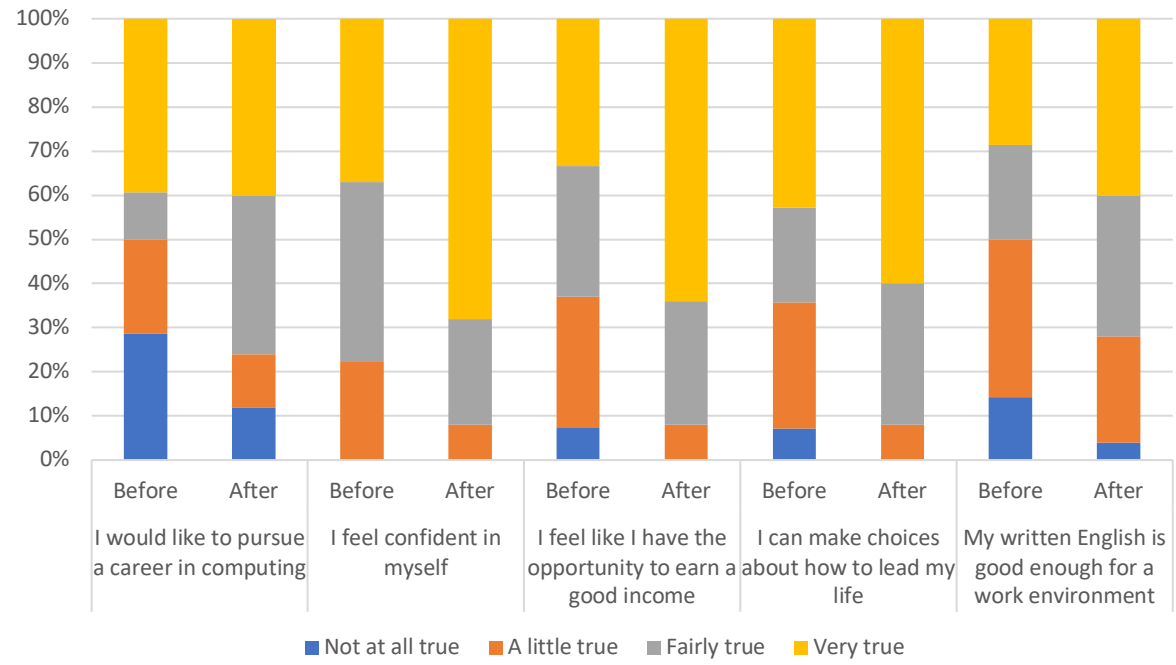

Figure 12: Student opinions and capabilities before and after the programme

In particular, there is a considerable positive shift in confidence with those reporting that it is 'very true' that they feel confident in themselves moving from 37% before Navgurukul to 68% after. There is also a notable improvement in the feelings of empowerment. Those responding 'fairly true' or 'very true' that they can make choices about how to lead their life went from 62% before the programme to 92% after. Respondents also experienced a boost in their feelings of opportunity to earn a good income, with those reporting 'fairly true' or 'very true' moving from 63% before to 92% after.

Those who were sure they would like a career in computing (reporting 'very true') before attending Navgurukul only increased by 1% following the programme (39% to 40%) while those who reported 'fairly true' increased from 11% to 36%. It seems those who attended the programme keen to pursue a career in computing felt the same after the course, and those who thought it was a possibility felt encouraged although not enough to shift them into 'very true'.

However, following the programme, nearly an eighth of students (12%) reported it was 'not at all true' that they wanted to pursue a career in computing and another eighth (12%) reported it is only 'a little true'. This is almost a quarter of alumni who seem to be unsure as to their career direction. It would be worth exploring this further with current students via interviews and focus groups.

Gender

Navgurukul recognises that gender inequality and traditional gender norms can be a barrier to positive outcomes. Gender sensitisation is a key component of the programme. Figure 13 shows agree/disagree responses to a series of statements about gender norms.

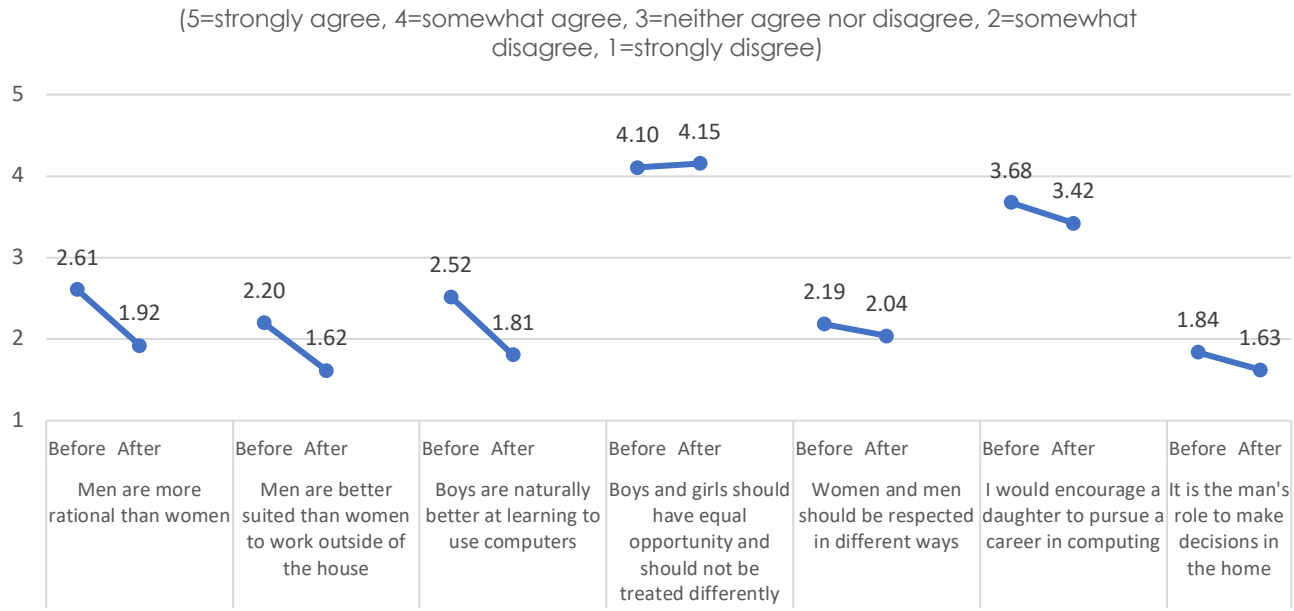

Figure 13: Average score of 'To what extent do you agree/disagree with the following statements - before and after Navgurukul'

For all but one of the measures, respondents were less likely to agree with statements of inequality that put men above women following the programme. This suggests that Navgurukul has a positive influence on perceptions of gender equality and challenges traditional patriarchal views held by men and women alike, particularly around women working in digital.

Interestingly, respondents reported they would be less likely to encourage a daughter to pursue a career in computing after the programme, compared to before (Figure 14).

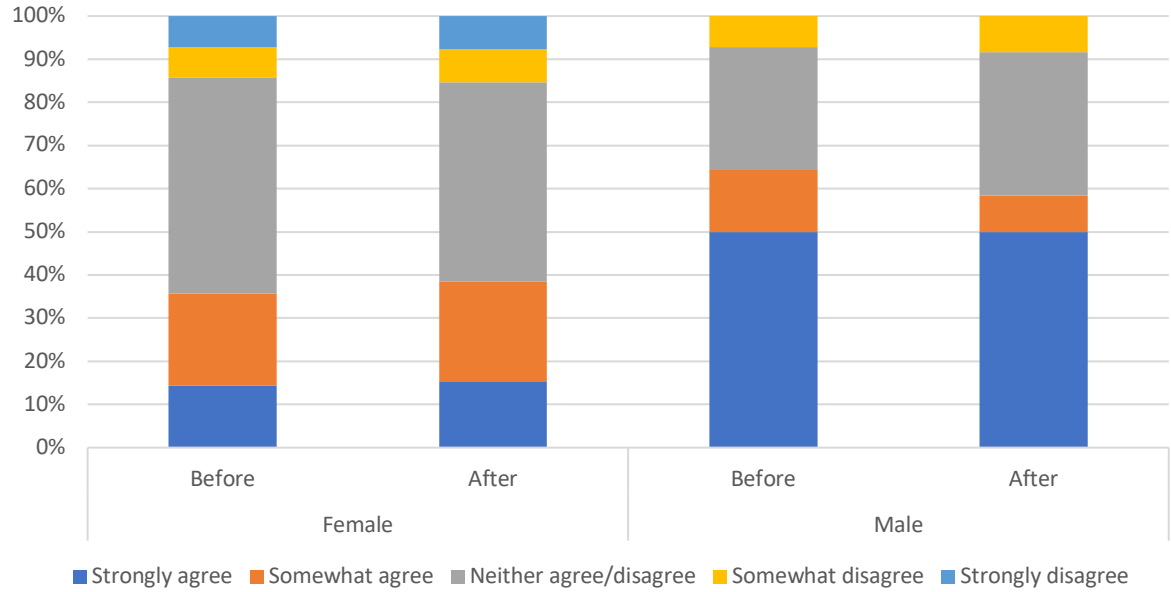

Figure 14: Responses to 'I would encourage a daughter to pursue a career in computing' split by male and female respondents

When responses are broken down by gender we see that women are less sure they would encourage a daughter to pursue a career in computing than men. After the

programme, only 8% of female respondents strongly agree they would encourage a daughter to pursue a career in computing compared to 24% of male respondents. Exploring this result further with women who themselves have developed their digital skills and are in work could assist with understanding the challenges they may be experiencing in the workplace which could be contributing to this counter-intuitive result.

Wellbeing

Responses to the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) reveal an improvement on every measure after the programme compared to before (Figure 15).

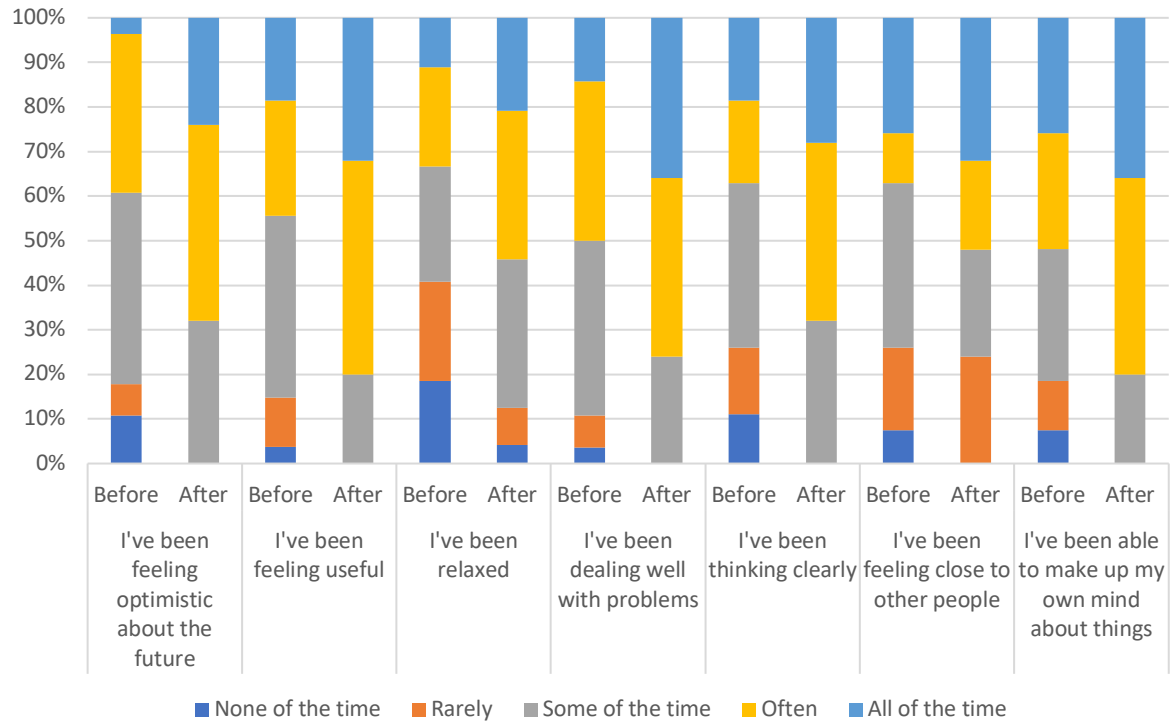

Figure 15: Students self-reported wellbeing before and after programme

Five measures see a particular improvement. These measures are: feeling optimistic; feeling useful; dealing with problems well; thinking clearly; and able to make decisions.

It appears that Navgurukul has a sizeable positive effect on the optimism of its students. Those feeling optimistic 'often' or 'all of the time' went from 40% before the programme to 68% afterwards. It also seems that the programme helps those who struggle to relax, with 41% of respondents reported feeling relaxed 'rarely' or 'none of the time' before the programme to only 12% reporting the same afterwards.

The resilience measure ('I've been dealing with problems well') sees a more than doubling of respondents choosing 'all of the time' following the programme (14% to 36%). This is perhaps of particular significance in the COVID-19 context and suggests that Navgurukul is in a position to equip young people to face the new challenges affecting all aspects of life.

4. Conclusion and recommendations

The findings from the survey indicate that Navgurukul is running an effective programme that is transforming the lives of underserved young people.

The holistic focus of the programme ensures that substantial improvements are realised across a range of outcome domains as summarised in Table 5.

Table 5: Summary of findings

Domain	Key findings
Employment and income	• 77% of starters and 92% of graduates find employment after the course • Salary of first job, on average, doubles the household income prior to student attending Navgurukul • Substantial salary increases in first 2-3 years after leaving Navgurukul suggest that graduates achieve career progression
Well-being	• Substantial improvements in 5 of 7 wellbeing domains, including increased optimism, resilience and autonomy
Soft-skills	• Improvements in confidence, written English, and on gender attitudes
Computing/technical skills	• High graduation (82% of starters) and employment rate (77% of starters) • Significant improvements in computing and technical skills reported by respondents • Nearly a quarter of respondents were not sure they wanted a career in computing, warranting further exploration
Satisfaction with programme	• High levels of satisfcation, with 100% of respondents saying they would recommend the programme to other • Feedback is overwhelmingly positive, although there is some evidence to suggest the quality of learning materials and elements relating to the course content could be improved (see recommendations below).

There is a question around graduates' career direction as some are not sure they want to pursue a career in computing.

4.1 Recommendations for improvement

While the respondents were overwhelmingly positive about the Navgurukul programme, with all respondents indicating they would recommend the programme to others, some areas for improvement were identified in the survey.

General

Recommendation 1: Explore student attitudes towards a career in computing

There appears to be a disconnect between those developing their digital skills and whether people are actually planning to work in the computing sector, with nearly ¼ of respondents unsure about pursuing a career in the field. We recommend that Navgurukul explores student and alumni attitudes around this and, if necessary, provides further assistance around career development, including guidance for alternative pathways where students/graduates realise that a career in the computing sector is not right for them.

Recommendation 2: Review the quality of learning materials and suggestions for improvements in this area

The quality of learning materials was one of the lowest scoring elements of the programme, and while still rated as at least 'good', content and learning style recommended improvements were also suggested by six respondents (see Appendix 1).

Recommendation 3: Investigate whether all learners are adequately catered for

Students at Navgurukul arrive with a range of educational levels (i.e. from not passing 10th class to having completed college). The programme is good at helping those who are struggling. It may be worth reviewing whether students with higher levels of education and/or experience are able to advance their skills sufficiently.

Measurement

Recommendation 4: Implement routine outcomes data collection

Navgurukul could benefit greatly from collecting quality data from students and alumni on a regular basis. A standard set of measures, such as an adapted version of the online survey used for this study, should be used at baseline (prior to starting), end of programme and for regular follow-up (every 6-12 months). Repeating the same questions ensures answers can be compared without requiring students to recall how they felt previously.

Recommendation 5: Collect data from individuals who exit the programme prior to graduating

Data should also be collected from those who leave the project prematurely and who do not have a positive experience. This will shed light on any measures that may help students to complete the programme as well as provide insight into the types of students for whom the programme is a good fit.

Recommendation 6: Undertake qualitative work to explore findings of interest in more depth

Follow up interviews and focus groups could enable a deeper understanding of particular areas of interest, for example why some women are not likely to encourage a daughter to work in computing sector and around career aspirations. This qualitative data could help inform improvements to the course.

Appendix 1: Respondents' suggestions for improvement

The following suggestions for improvement general feedback were provided by respondents in free text boxes at the end of the survey. The responses have been grouped by theme.

General feedback

- Navgurukul is very helpful for those students who cannot afford to pay for their studies.
- I am thankful to Navgurukul for changing my life drastically
- It's a life changing course and experience
- This one year. I have a lot of learning, this one year give(s) me a good future.
- …after Navgurukul…all are connected to Navgurukul all are part of my family.
- I am really proud to be a part of a Navgurukul earlier as a student and now as an Alumni

Hardware, facilities

- By providing sufficient computers
- and (more) laptop(s)

Content and learning style

- By proper management, by mentor training
- Need to work more on quality of code and team work
- Need to work on practical project with team
- With more live projects and industrial projects practices
- Regular sessions and supervision
- More effective learning content and sufficient study material

Range of courses

- Add some more courses.
- By introducing new courses.
- Add other professional course apart from a software engineer

Other

- Internet service, facility and food can be improved
- …things should work or need to be done on time :)
- … a few of the students who came here for fun only and because of them we unable to get the students who all desperately need this opportunity.