Evaluating a transitional support intervention to improve educational outcomes and experiences for students registered with disability and inclusion services

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This study focuses on an intervention for students experiencing disabilities to reduce the reported statistical negative gaps in continuation and attainment. This study established how targeted interventions, alongside inclusive practice, can be effective in reducing these gaps. To collect data from the students, the study's design used questionnaires containing questions with pre-set answers choices, Likert scale questions and free text options. 1003 students known to disability services at an English university were invited to take part, 47 responded to the pre-programme questionnaires and 51 responded to the post-programme questionnaire. 11 students attended enough sessions and provided consent for their data to be included in this study, these students were tracked during their studies to assess the impact of the transition programme, in terms of retention and progression. Student satisfaction with the transition programme was statistically significant and improved the students' experience of joining the university. An unexpected outcome of the programme was that 10.5% more students obtained a support plan with the university and 6.6% more students were awarded the Disabled Students' Allowance. The study concludes that further development of transition programmes, at key points in the students' life cycle, would be beneficial to individual students and reduce the reported gaps in outcomes.
Keywords: disability, transition, university, intervention

1. Introduction

In 2018/2019 the Office for Students (OfS) reported a gap in outcomes for students experiencing disabilities in continuation (0.9%), attainment (1.3%) and progression (1.8%) rates. These students were less likely to progress into highly skilled employment or postgraduate study and be satisfied with their courses. This study is written from the perspective of a qualified teacher with 15 years of experience in

education, having spent the last six years in the role of Disability and Inclusion Manager in an English university.

The students represented in this study have self-identified as belonging to one of the Higher Education Statistic Agency (HESA) disability codes, 1-9 and T (please see Appendix one for a full list). When referring to students experiencing disabilities this term if limited to the definitions provided by HESA. On this basis, at present, 3500 students have declared a need for support with the Disability and Inclusion service, representing 26% of the student population. Approximately 50% of students who disclose a need for disability support go on to register with the service, representing 13% of the student population. In order to do so, students need to produce a confirmation of diagnosis from a suitably qualified professional.

2. Rationale

There is limited research into targeted transition interventions in university and if those interventions are effective in improving outcomes for students' experiencing disabilities. Step-HE aims to contribute to the research by examining the impact on outcomes for students by improving their experience and access to support services at the beginning of their journey. Step-HE is based on the concept explored in Step-ASD by Murin et al. in 2016. This study developed a support programme for autistic children transitioning between primary and secondary school in England. Later, Hillier et al. (2018), created a university specific transition programme for autistic students. The aim of Hillier et al.'s (2018) study was to assist universities in preparing for increasing numbers of autistic students by evaluating the effectiveness at improving outcomes and support for students, based on a model of group support. Currently, there are few evidence-based interventions for autistic students and the level of participation in universities remains lower than that of students with other types of disabilities. Step-HE

was inspired by, and is modelled on, the Hillier et al.'s (2018) study. The aims of Step-HE, differ from Hillier et al.'s (2018) study as this pilot aimed to test a broader intervention designed within a matrix of need and specific disabilities; this approach would allow an evaluation to see if the efficacy of the study findings could be replicated to improve outcomes for students' experiencing disabilities more generally. The programme sessions focused on supporting students with neurodiversity and any type of mental health condition at university, the rationale for this approach is that these two types of disabilities combined represent 62% of all students registered with the disability service at the participating university.

3. Methodology

Step- HE adheres to UDL guidance by providing for:

(1) Perception: via lecture capture, sharing of the PowerPoint resources and a notetaker for all sessions,
(2) Flexibility: simple and intuitive, the study is designed based on simplifying the raft of indigestible information provided to students at the start of their course,
(3) Feedback and communication: options via the survey and question time at the end of each session and,
(4) Executive function by creating opportunities to scaffold support for learners.

The aim of the study is to evaluate the effectiveness of a supportive transitional programme for students' experiencing disabilities by reducing the participant retention gap, attainment gap and increasing confidence among new students. The hypothesis is that students who have participated in the transition programme will benefit in two distinct ways:

(1) participants will feel more confident about studying, and
(2) the participant sample will have reduced gaps in retention (i.e., course withdrawal and intermission) and attainment (i.e., completing on time and grade outcomes) when compared with students declaring disabilities who did not participate in the transition programme.

The study was designed to be replicable and, if the hypothesis was found to be true, to provide this intervention to each incoming cohort, regardless of disability status at the participating university. To reduce possible selection bias, participants had to opt in to be part of this cohort study. The intervention used a case study strategy to conduct the research, as this was the most effective way to conduct an "empirical investigation of a particular contemporary phenomenon within its real-life context using multiple sources of evidence" (Yin, 2009, p.18). A non-experimental research design method was used to examine the two aspects of the hypothesis and the correlation research method was used to analyse the questionnaire results. In this intervention, the variable being manipulated was participation in the Step-HE programme; however, using a correlation research method in this context is limited as it may not be possible to determine that students' participation in Step-HE is the only variable being manipulated. Thus, while the correlation can be analysed, directional causation cannot be identified. The primary analytical tool being used is contextual descriptive statistics.

All students who were invited were emailed the links to online self-administered questionnaires, one before and one after the programme. For the post-programme questionnaire, the students who confirmed that they had attended at least three of the four core sessions, and at least one disability specific session, were included in the post transition analysis. The premise being if students had not attended the prerequisite

number of sessions, it would be difficult to ascertain if Step-HE could be the variable impacting on the retention and course outcomes for these students.

The Step-HE intervention was delivered in September 2021, attracting 51 participants the via the pre-programme questionnaire. As sending out a pre-survey email indicating the length of time it will take to complete (15 minutes for the pre-programme survey) can increase the survey response rate (Crawford et al., 2001), students were sent an email detailing the time commitment in the save the date email. The invitation to attend Step-HE and to complete the pre and post questionnaires was sent to 1003 possible participants. The response rate was 3.1% to the pre programme survey and was 5.1% to the post programme survey. As the response rate is low, caution is advised in interpreting the data.

3.1 Instrument timeline

- A save the date, with accessible infographic about the programme, was sent to students who had made declarations of a disability to the university,
- Three weeks before the scheduled start date for Step-HE a follow up reminder was sent via students' personal and university email.
- The pre-programme questionnaires were sent one week prior to Step-HE via students' personal and university email.
- The post-programme questionnaire was sent to the students' personal and university email, the day after the final Step-HE session.
- A follow-up email reminder was sent one week after the final session, to increase the response rate.

A further verbal reminder was included at the end of each video session. As the target student demographic is predominantly neurodiverse, the additional reminders were designed to support their organisation and attendance (Goegan, 2018).

The validity in a questionnaire is "the property of a measurement instrument, [and the questionnaire] measures what it is supposed to measure" (Taherdoost, 2016, p28). As such, the pre-programme questionnaire was designed to measure the impact of the intervention on students' confidence in studying, and to evidence a reduction in outcomes gaps (retention and completion) in the participant sample. The first question on both pre and post questionnaire asked if participants consented for their data to be used. In the post questionnaire an additional question asked participants if they consented to be contacted to attend an individual 45 minute follow up interview. Simple questions were asked at the start of the questionnaire, moving to more complex questions towards the end. Questions were arranged in themes to improve accuracy of responses and limited to four types of questions: open questions, category questions, Likert scale questions and list questions.

3.2 Eligibility

As the intervention took place prior to the start of students' courses, students might not have had time to fully register with disability services as to do so, students must have provided medical evidence of their disability/medical condition. The decision was taken to open the intervention to any student who had declared a disability to the university, even if they had not yet fully registered with disability services. Following the programme delivery, the same 1003 students were invited to complete a post programme questionnaire, to ensure reliability of the responses, students needed to select which session(s) they had attended. Eligibility to be included in the sample group for analysis was:

(1) participants must have attended three core sessions,

(2) participants must have attended at least one disability specific session, and

(3) student must have provided consent for their data to be used.

Eleven participants who completed the post-programme questionnaire and met the criteria, were sent self-booking interview slots by email and a reminder to book a slot was sent one week later.

3.3 Coding the data

Excel was used to analyse the quantitative survey data. Bryford (2016) recommends producing a code book, firstly, identifying data patterns, then labelling data themes, and finally developing categories. For the qualitative questions involving free text responses, the analysis was based on the frequency of responses on the identified themes in the code book. For example, the question: "What are you most concerned about in relation to the academic aspect of starting your course?" elicited responses that fell into data patterns based on four thematic categories:

- Concerns about academic performance,
- The impact of the participants' disability on their studies,
- Accessing support and,
- Other, this included comments that were specific to a student's personal situation that did not fit into the other three categories.

Categories were used to group all the qualitative data for statistical analysis using the same premise. As the results were subjective and varied based on individual participant experiences the results were then presented using descriptive statistics to ensure the context was not overlooked by relying purely on quantitative analysis.

3.4 Delivery and accessibility

The programme was delivered online via live video sessions for two reasons. Firstly, there remained ongoing covid restrictions in England. Potentially, the participants targeted for this intervention could be shielding or reticent to attend the campus for teaching if they have an underlying medical condition. At the participating university all students could choose their preferred option for participating in lectures, either face to face or via online streaming. Secondly, the participating university has multiple campuses in England and delivering the programme online would widen the target sample group. To benefit those students who were unable to attend the live online sessions, at all sessions an external notetaker was provided and the sessions were recorded using Collaborate (lecture capture platform). The recordings, PowerPoints and notes were made available on the day of delivery via the university's virtual learning environment. To reduce the potential impact of experimenter bias, four members of staff delivered the Step-HE programme. The data analysis found positive correlations between attending Step-HE, as predicted, and improved confidence but, unexpectedly, higher formal support uptake within the participant sample. It is difficult to rule out the impact of extraneous variables as there are too many to consider all possibilities. For example, a student experiencing disabilities who takes a break from their studies; the precipitating factor may not be related to the student's disability/condition e.g., a bereavement.

4. Findings

4.1 Pre-survey findings

In line with the non-experimental research design model, the findings are presented in three formats: stating the percentage of responders who gave an answer,

pie-charts showing responses to Likert questions, and bar charts showing the responses to category questions. In total 31 students responded to the pre-Step-HE questionnaire. Seventeen of these students had registered their disability with the Disability and Inclusion service, 14 had not yet registered.

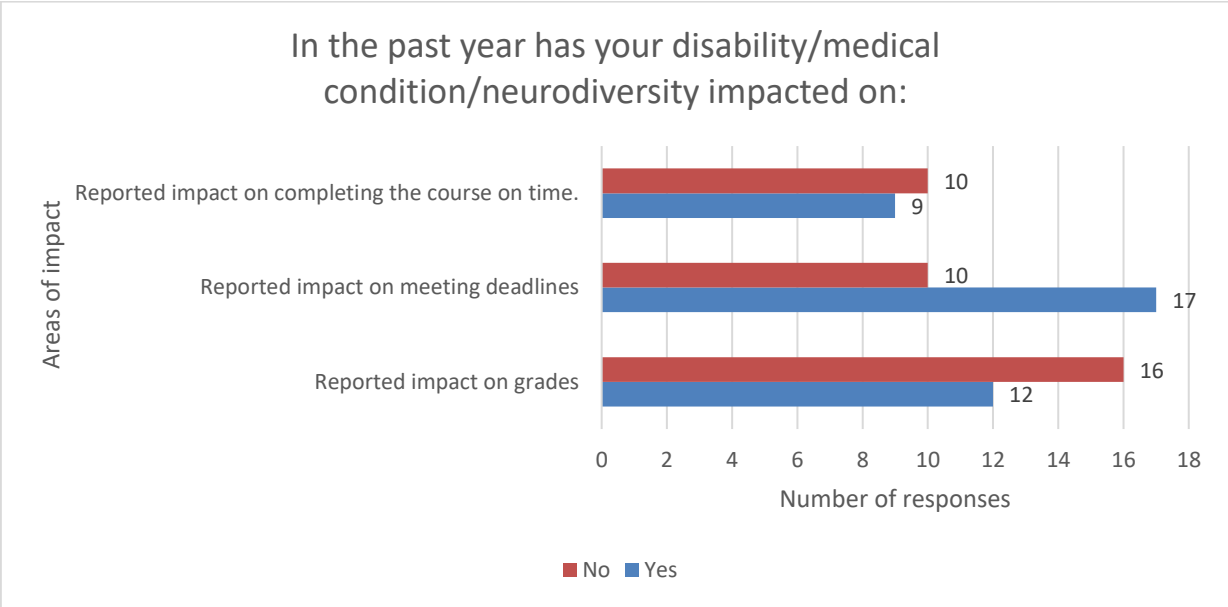

Table 1: Disability impact on outcomes.

Students were asked if in the past, their disability had impacted on completing the course on time and on their grade outcomes. The responses highlighted the most frequently reported challenge was meeting deadlines (54.8%). The student data revealed that 29% of respondents did not complete on time and 38% indicated their grades had been negatively impacted upon by their disability in the past. The data gave a useful insight into how UDL could be applied to specifically remove these barriers. For example, the barrier removal could be achieved by designing out competing submission deadlines and embedding formal assessments into each week; for example, through multiple choice questions (MCQs) to test knowledge that counts towards the overall grade.

4.1.1 Theme 1: Confidence.

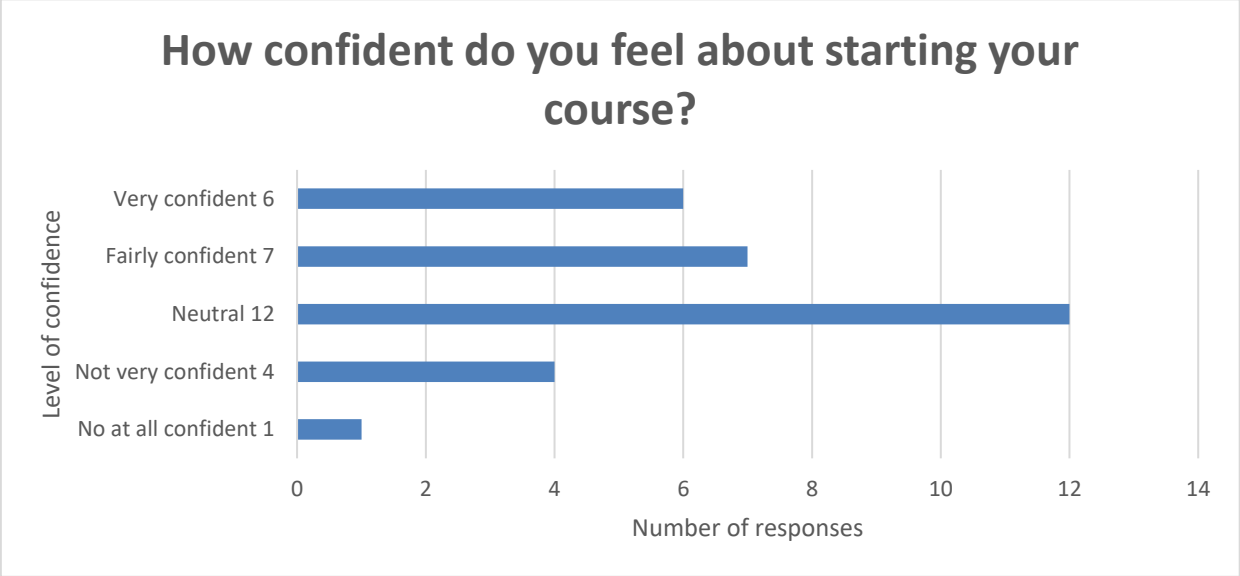

Table 2: Student confidence prior to Step-HE.

The levels of confidence reported at the start of the programme were high, 41.9% compared to 16.1% who stated they were not confident to some degree.

4.1.2 Theme 2: Concerns

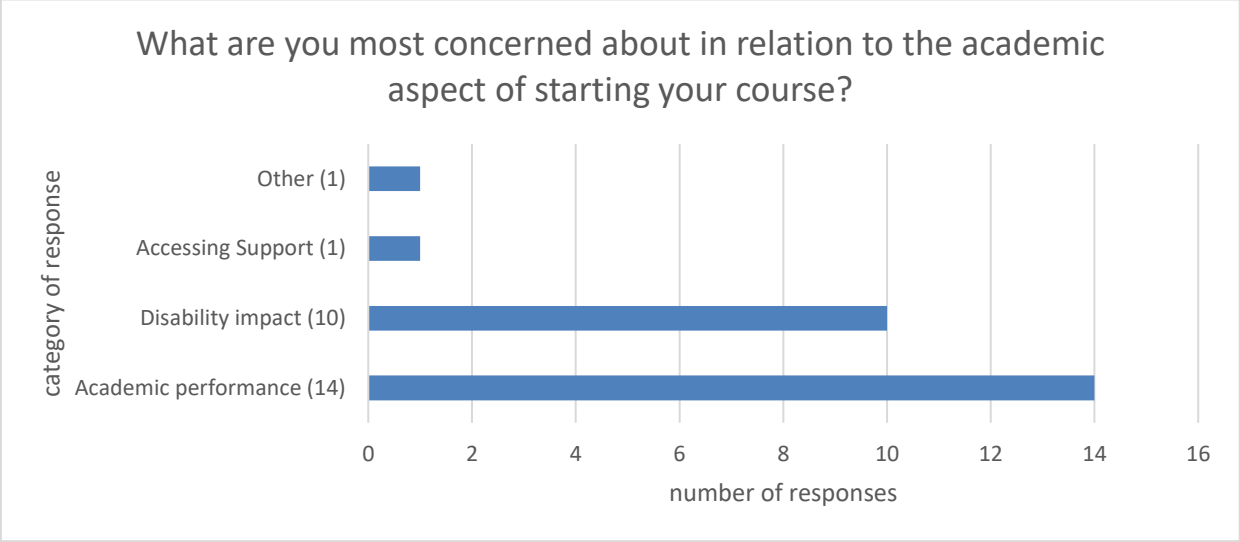

Table 3: Pre-Step-HE areas of concern

Participants main concerns centred around the impact of their disability on university life and about their academic performance.

4.1.3 Theme 3: Skills and outcomes

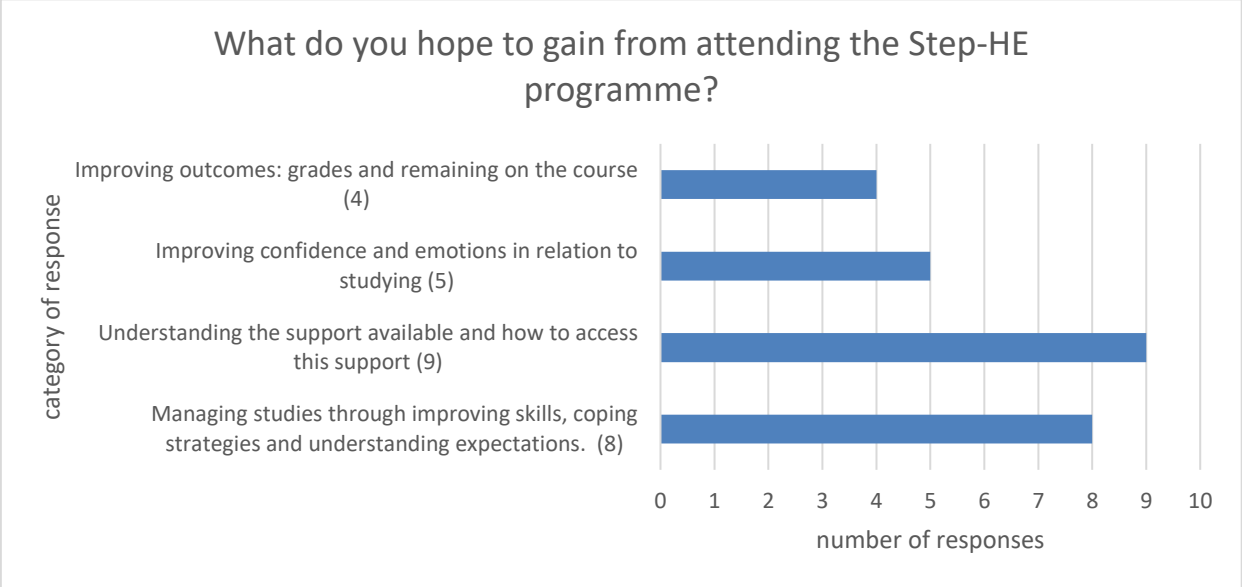

Table 4: Desired student outcomes from attending Step- HE.

Respondents prioritised understanding their support options as their most significant aim (34.6%), followed by concerns around improving study skills and condition management (30.8%)

4.1.4 Theme 4: Barriers

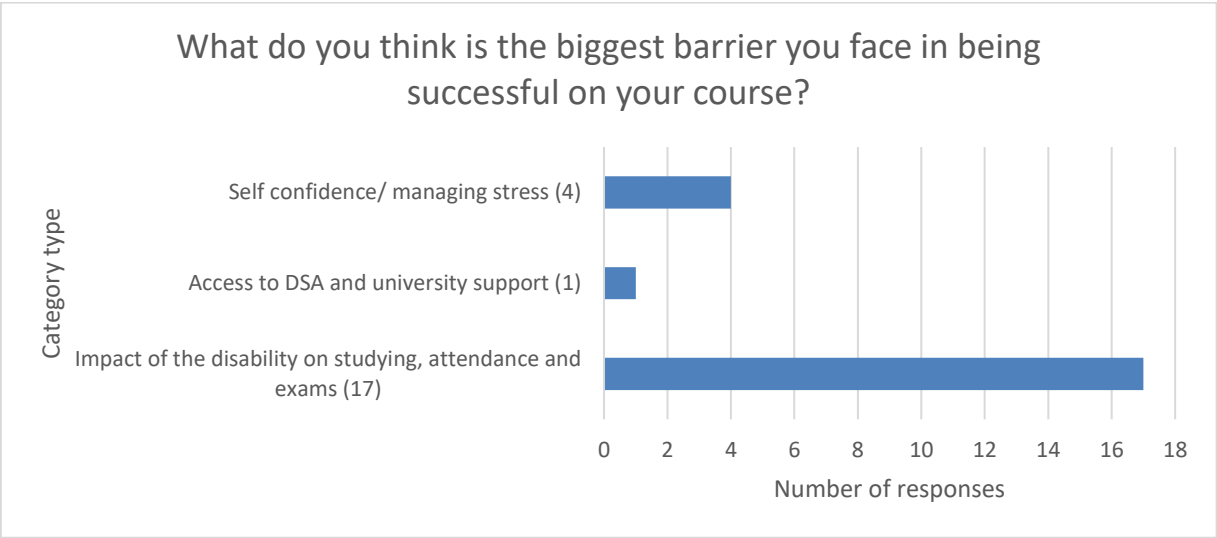

Table 5: Student reported barriers to success.

Table 5 confirms the findings shown in Table 1 which refers to disability as having an impact on student outcomes; students associate the impact of their disability with a

barrier to their success. Of the 22 students who answered this question, 77.2% identify the impact of their disability as the main barrier to their success.

4.1.5 Pre-survey summary

The pre-programme survey found students are most concerned that their disability will be a barrier to their academic performance and the completion of their course on time. Students appeared keen to engage in support to achieve their goals and learn how to balance the impact of their condition whilst studying (see Appendix 2 for data tables on study motivation and perceptions of success).

4.2 Post Survey findings

4.2.1 Participants

To be eligible for inclusion in the post survey data analysis, participants must have declared they attended at least three of the core sessions and one disability/condition specific session. The post study results are based on the 11 students who gave their consent to use their data and attended the minimum number of sessions to be included in the study. As the sample group is small, the findings should be read with caution regarding broad application of the findings.

4.2.2. Outcomes Summary

The outcomes of the survey focused on gathering data in relation to four themes: confidence, concerns, skills and barriers. Nine out of 11 students stated they felt more confident in managing their condition/ disability alongside their studies and that they had gained new skills to be successful on their course. Eight students agreed or strongly agreed that the Step-HE programme helped to reduce, remove, or provide solutions to overcome barriers to succeeding on their course. Eleven students stated they felt better

equipped to study their course with confidence, whilst seeking support to achieve their goals. All the 11 participants said they would recommend the Step-HE programme to other students. Nine students now felt equipped to find support if they needed it.

4.2.3 Theme 1: Confidence

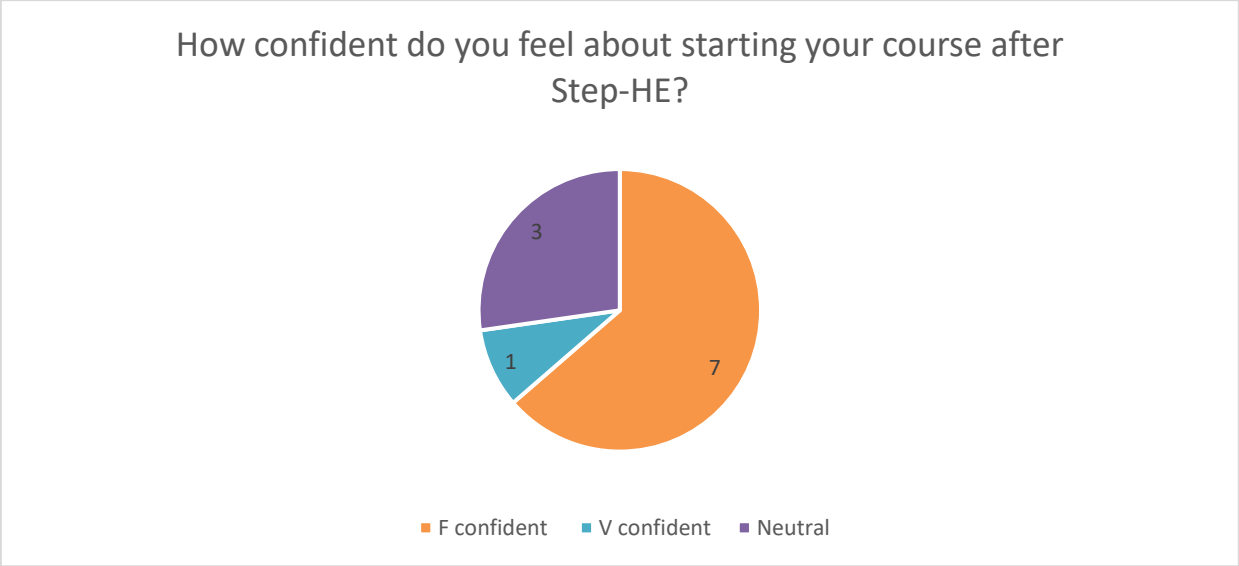

Chart 1: Students' feelings of confidence after attending Step-HE

72.2% of students felt fairly confident or very confident following their participation in Step- HE.

4.2.4 Theme 2: Concerns

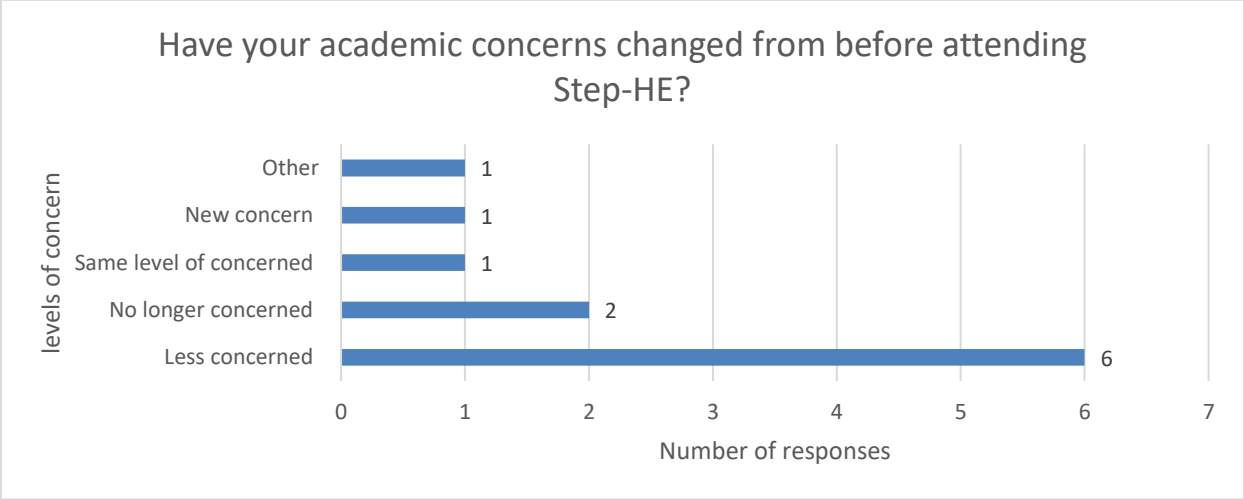

Table 6: Changes in the level of concerns after attending Step-HE.

72.2% of participants identified as being less or no longer concerned following attending Step-HE. Interestingly one student had a new concern but did not state their new concern. One student selected other as a response and provided this explanation for their choice: "I still have the same concerns, but I have some better strategies and ideas for managing those concerns."

4.2.5 Theme 3: Skills and outcomes

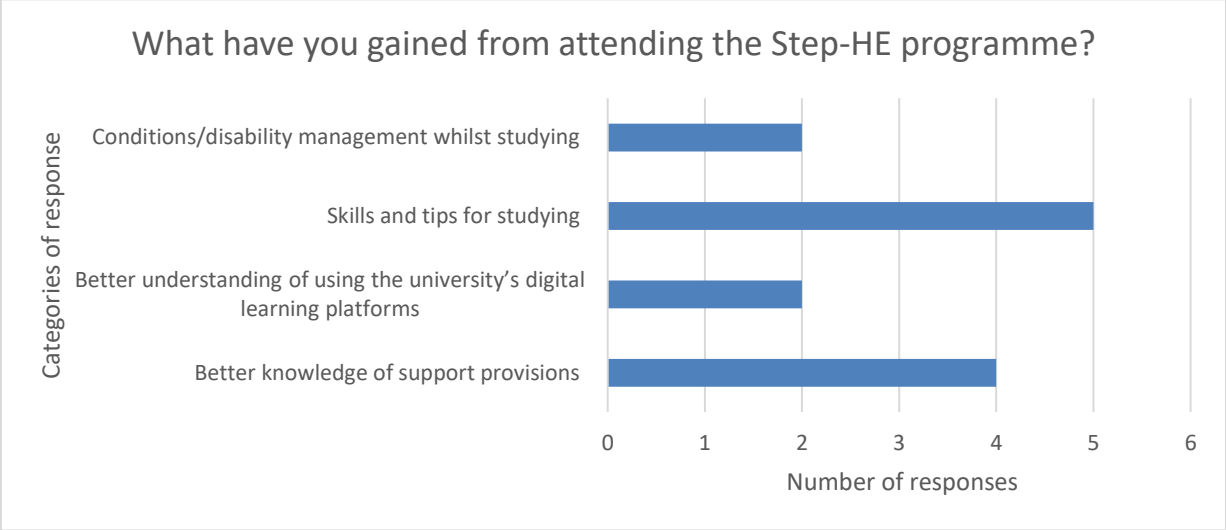

Table 7: Participants take aways from Step-HE.

Participants identified the key gains from attending Step-HE was improved skills for studying with their condition and a better knowledge of support provisions.

4.2.6 Theme 4: Barriers

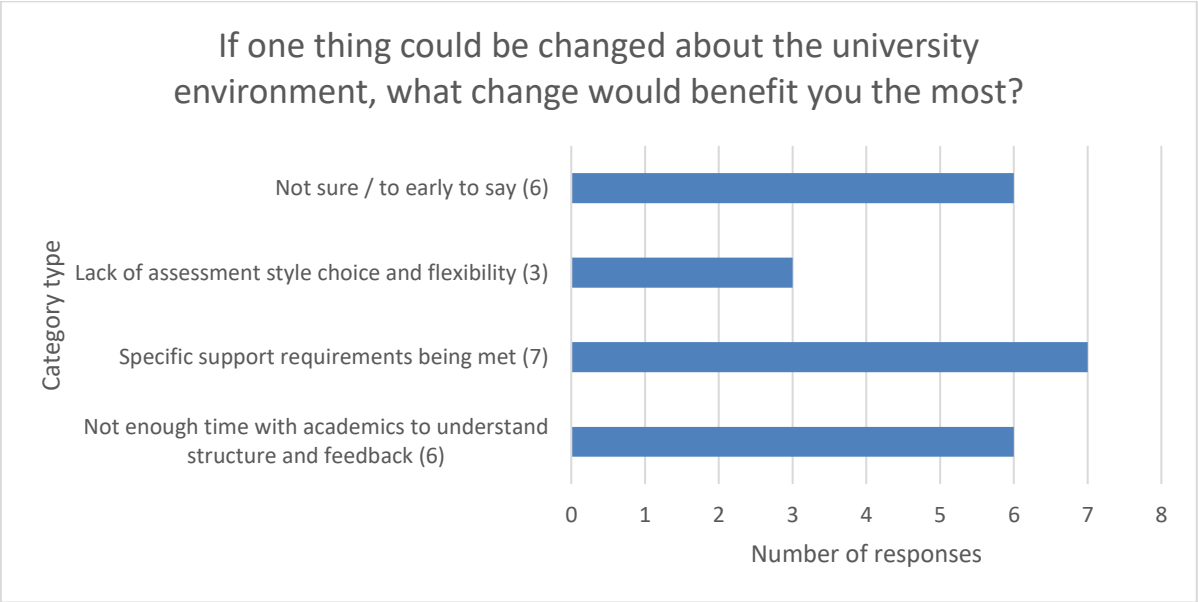

Table 8: Participant identified barriers after attending Step-HE.

The participant free text feedback fell into three groups, a) a more structured approach from academics when teaching, b) to provide clear feedback on tasks and, c) ensuring student support plans are met without the student needing to chase academics.

5. Discussion

Two unexpected outcomes of the programme were that, after participating in Step-HE, 10.5% more students went on to register for a support plan with the university, than the general cohort conversion rate of 53.8%; totalling 64.3%. Following participation in Step-HE where one of the sessions focused on applying for DSA, 6.6% more students received DSA, when compared with the students experiencing disabilities cohort of 37.0%; totalling 43.6%. Students' DSA status can be an indicator of increased participation and engagement in their studies (Redpath et al., 2013). Potentially, this uplift in DSA support in the sample group is one of the factors explaining the statistical increase in participants remaining on the course and completing assessments on time. Table 7 shows that one of the main reported outcomes was better knowledge of the

support available and how to access available support. The increases in the uptake for formal support are consistent with the participant feedback.

5.1 Theme 1: Confidence

The pre-survey found 41.9% of students felt they were either fairly or very confident about starting their course. When participants were asked what they hoped to gain from Step-HE, 5 out of 11 students wanted to improve their confidence in relation to studying (Table 2). After attending Step-HE, the participants in the sample group who stated they felt either fairly or very confident about starting their course increased by 30.3% (Chart 1). After participating in Step-HE, those participants who had previously stated that they had not felt confident to some degree, now all felt either neutral or confident to some degree. There were no students who did not feel confident to some degree.

5.2 Theme 2: Concerns

Prior to attending Step-HE, participants reported they were most concerned about the impact of their disability on their academic performance (Table 3). Participants were asked if their concerns had reduced after engaging with Step-HE; only one participant had the same level of concern as before Step-HE, whilst no participant was more concerned (Table 6). The results suggest Step-HE had addressed student concerns by improving skills.

5.3 Theme 3: Skills gained on Step-HE

Participants, prior to attending Step-HE, indicated they wanted to improve their understanding of how to access support (nine out of 11), their study skills and how to manage their condition (Table 4). Table 7 shows students have gained skills in managing their condition, study skills and an improved knowledge of accessing support.

This reported increase is less pronounced than the improvements found around confidence and concerns. Improving study skills and condition management, in a meaningful and sustained way, was challenging to achieve in a short transition programme. To address these skills gaps and manage complex conditions, alongside studying, in a short transition programme such as Step-HE, was a little ambitious. An embedded, protracted support programme might be more suited to tackling these areas.

5.4 Theme 4: Barriers

Prior to Step-HE, 17 out of 22 respondents stated they perceived the biggest barrier to their success on their course was engagement with studying, assessments and attendance (see Table 8). After attending the programme, participants were asked to make suggestions to mitigate this barrier; suggestions included:

(1) more time with academics for feedback; this would help when students could not attend or properly prepare due to the impact of their condition(s);
(2) ensuring the enforcement of adjustments across the university; an example, given in the verbatim comments, was to ensure academics sent their lecture slides in advance of the lectures without the student needing to chase them;
(3) diversification of assessment styles and greater flexibility; this could mitigate the impact of missing assessments and thus hindering students' progression either onto the next year of the course, into further study or into employment.

5.5 Longer term outcomes: retention, progression and completion on time

Of the 11 students whose data was included in the study, 10 of the 11 (90%) remained on their courses. The 7% uplift in retention rate for participants compares with a general retention rate of 83% of students registered with the disability service; confirming the findings in Newman et al.'s (2021) study that student's course retention

rate is improved after engaging with formal support. Of the 10 students who remained on their courses, seven completed their assessments on time and passed their course or progressed into the next year (74%); this is an increase of 4% when compared with the completion rate for students who had registered for disability services. As a result of Step-HE, a positive impact can be found on increasing course completion rates. Two students (20%) had missed assessments and had not completed their course on time; this compares with 18.2% of students registered with disability services needing to re-sit an assessment either due to failure or absence. There is a slightly higher rate (1.2%) of not completing assessments on time when taking part in Step-HE. However, the two students who missed their exams did not submit concession applications for their failure to attend the exam, while the reasons remain unknown it might be unrelated to their disability.

6. Strengths of the study

The questionnaires were developed specifically to be accessible to students, taking into consideration the needs of neurodiverse participants, using clear, plain English for each question, and not using time constraints (Goegan, 2018). Aligning with UDL principles, the study was designed to benefit all students as the sessions ranged from practical guidance on using the Virtual Learning Environment (VLE) and online Digital Skills Academy, to sessions designed for students with specific disabilities and stages of their studies, including the session for students studying postgraduate courses who are neurodiverse. The study is designed to be scaled up for all students seeking support, demonstrating that it is possible to move away from the deficit model of disability towards UDL. The application of the study in a real environment has demonstrated the replicability of the study for use in other English universities.

7. Limitations of the study

There are several limitations of the STEP-HE pilot study that needs to be resolved prior to a wider launch, including not being able to gain individual interviews following the programme. While the survey data is useful, a more in-depth exploration of the responses from the participants could have enriched the data. The study was deployed just before the start of the course and concluded within two weeks. The study coincided with students starting to face a higher workload from their course, which could have led to participants being too time poor to take part in individual interviews. Goegan (2018) states research participants may have difficulties participating in research if they need adjustments to participate, as part of the interview invite, students were not asked if they needed any adjustments that could have led to a lack of interview participation. Alternatively, as the survey data demonstrated, students were concerned about the impact of their ability to prioritise their studies. A possible explanation is that some students were unwell or prioritised their workload over the follow-up interviews. Considering the intersectionality of disability and household income, students may have been too time poor, due to work commitments, to participate. The study highlights some pertinent points, but the response rate and sample group sizes are too small to draw generalisations across the students' experiencing disabilities cohort. Finally, the grade outcome data is not yet available for the 11 students in the sample group to evaluate whether there has been an increase in grade outcomes. The data will be available later in the year and an addendum will be added to this report.

8. Recommendations and further research

As the programme has improved confidence, engagement with formal support, retention and progression within the sample group, expanding the programme to all students would be beneficial to some students. To increase awareness of Step-HE and to

ensure students can participate, it is worth considering the feasibility of embedding the programme into students' timetables. Not only would this approach ensure students do not have clashes with other scheduled activities, but this will also embed UDL into the curriculum and reduce the stigma of accessing disability services by redefining support as being available to all. Future research could involve analysing the data in more depth to identify trends in intersectionality. Based on the findings, a longer programme, evolving from Step-HE, could be explored to provide support at key stages in the student life cycle. Currently, the participating university runs standalone sessions for students registered with disability services prior to examinations. These sessions are on revising for exams and understanding exam adjustments; additionally, an exit transition is delivered to support students when applying for Access to Work and when approaching employers about reasonable adjustments. If these sessions were expanded and embedded into the curriculum, it could be possible that some reported outcomes gaps could be significantly reduced, this approach warrants further investigation. A further study of this nature would contribute to the limited literature on successful interventions for students experiencing disabilities in universities. Following the sharing of the outcomes of this study with the participating university, the participating university has agreed to enact the recommendation of making Step-HE available to all students joining the university from September 2022. The programme will be offered to all students regardless of the student's disability status, in line with UDL principles. Further data will be gathered on participants to analyse the impact on students who do not identify as disabled, students who have declared a disability but have not registered with disability services, and students who have registered with disability services. The expanded programme will follow the same methodology used in the pilot study to allow for comparison of the data, so that the impact on a larger and more diverse sample size

can be assessed. The aim is to present the findings of the widening of the programme in summer 2023.

9. Conclusion

As the interest in embedding UDL increases, utilising transition programmes to support any student, who identifies as needing support, could contribute towards the systematic removal of barriers to success in university. Despite the limitations of this pilot study, validation for further research into support transitions, for students experiencing disabilities, has been established. The main successes of the study have been an increase in seeking formal support amongst the sample group, and an increase in students remaining on their course; potentially this outcome is a result of engaging with support more effectively, as other studies discussed suggest.

10. Appendix 1- Higher Education Statistic Agency Disability codes

(4) No known disability

(5) A specific learning difficulty such as dyslexia, dyspraxia or AD(H)D

(6) Blind or a serious visual impairment uncorrected by glasses

(7) Deaf or a serious hearing impairment

(8) A physical impairment or mobility issues, such as difficulty using arms or using a wheelchair or crutches

(9) Personal Care requirements

(10) A mental health condition, such as depression, schizophrenia or anxiety disorder

(11) A long standing illness or health condition such as cancer, HIV, diabetes, chronic heart disease, or epilepsy

(12) Multiple disabilities.

(13) A disability, impairment or medical condition that is not listed

(T) A social/communication impairment such as Asperger's syndrome/other autistic spectrum disorder

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