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Reflections of Higher Education Teaching Staff on Supporting Autistic Students: A Case Study in an Undergraduate Engineering Faculty

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ABSTRACT

CONTEXT

Pilotte & Bairaktarova (2016) articulated that 'Universities are experiencing an increase in enrolment of high-functioning (sic) students with autism spectrum disorder (ASD)'. Research has indicated that significant numbers of autistic students select STEM (Science, Technology, Engineering, Mathematics) education areas at rates above both the general population, and other differently abled groups (Wei et al, 2013; Wei et al, 2014; Ruzich et al, 2015). Concurrent to this shift in student demographics, the pedagogical landscape within STEM, specifically engineering education, is also changing. Greater emphasis is now placed on problem-based / group-based learning initiatives and the development of skills beyond the purely technical, specifically increasing student capability in both oral and written communications, engaging in "robust" teamwork, and making gains in overall professional behaviour. These requests have manifested themselves in expanded (and contracted) engineering curriculums which aim to improve the overall employability of graduating students into the engineering profession.

Together the shift in engineering student body, and the team / problem-based approaches in engineering education instruction, may be setting up an environment for an unfortunate collision where both students and collective educational experiences are negatively impacted (Pilotte & Bairaktarova, 2016).

PURPOSE OR GOAL

Within the United Kingdom, data from the Office for Students (OfS), demonstrates that year on year the number of students entering Higher Education with a declared disability is increasing, alongside the increase in student numbers there is also an increase in the disparity of outcomes between disabled students and their non-disabled counterparts. In 2016 / 17 OfS data shows that the proportion of disabled students obtaining a First Class or Upper Second-Class degree was lower than their non-disabled counterparts. Employment outcomes are also notably worse for this group. As Hubble & Bolton (2021) illustrate these differences hold even when the impact of other demographic factors is considered (3). Within the UK the onus on providing support for students with a declared disability is on the institution and the individual teaching staff to support these students. This paper examines the intersection between student diagnosis, institutional support and the impact on team-based engineering education classroom environments from the perspectives of related stakeholders.

APPROACH OR METHODOLOGY/METHODS

Participants were 48 members of Academic and Teaching Staff across eight of the ten Departments that make up the UCL Faculty of Engineering. The Departments chosen were those that take part in the same curriculum design across the first two years of the degree programme.

Semi-Structured Interviews designed around three common group-based scenarios were created for this study. The vignettes were constructed to resemble common issues that would be experienced by Academic and Teaching Staff when teaching group-based modules. Participants were asked to read each scenario and then answer a series of questions. Further questions were asked, where appropriate to ensure clarity in meaning and response. All interviews were conducted online using MS Teams. After each interview the recording was transcribed verbatim using MS Steam and once transcription was complete the participants name was removed, and the original recording deleted.

Thematic analysis was chosen for analysing the data (Braun and Clarke 2006, 2013) as this offered the flexibility to explore in a data-driven and theoretically informed way.

ACTUAL OR ANTICIPATED OUTCOMES

Autistic students are negatively perceived by academic and teaching staff which means support for this group is hit and miss and dependent upon the individual member of staff and their “opinion” or “perception” of students. The worth of individual students is linked to their perceived employability

CONCLUSIONS/RECOMMENDATIONS/SUMMARY

With the recurrences of misconception and stigmatisation towards Autistic students and their value and ability when working in teams. This paper makes a series of practical recommendations relating to the provision of “reasonable adjustments” and a proposal for a coaching based pedagogical approach to project-based learning which draws from Organisational Psychology and is focused on enabling students to work at their best.

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KEYWORDS

Project Based Learning, Group based learning, Autism, inclusive education Undergraduate Engineering Education