

Enhancing learning confidence for direct entry computing students

Khristin Fabian, Ella Taylor-Smith, Debbie Meharg, Alison Varey

Abstract

Previous studies have shown that students who transfer into university from college (direct entrants) face several challenges when they enter university. In response, the Associate Student Project supports students who enter university directly into the third year of a four-year honours degree, after completing a Higher National Diploma at further education college. Associate students matriculate as university students from their first year in college and are provided with confidence-building interventions from this point. The focus of the current study is to assess the academic confidence of associate students and compare their confidence with other direct entrants and continuing students. Undergraduate students (n=158) were surveyed on their confidence in facing various university tasks and situations. Results revealed that, while direct entry students were less confident about their studies than students who had studied at university since first year, there was a closer parity of confidence between the latter and associate students.

Context

Widening participation continues to be a focus for the Scottish Government; the participation gap between students from the most and least advantages areas is a concerning, but improving statistic (Blackburn et al. 2016). After studying for the Higher National Diploma (HND) at college, students can enter university with full credit and advanced standing and continue their degree study by entering into year 3. This pathway into university is increasing in popularity (Scottish Government, 2018). Since 2013, Scottish institutions have received additional funding to support students on this four-year pathway. These *associate students* are in receipt of dual enrolment, classed as both a college and a university student during their first two years of study. The Associate Student Project (ASP) provides interventions to support associate students in the School of Computing, providing information and events, such as workshops and guest lectures.

Previous research identified that direct entrants face academic, social, and logistical challenges (Christie et al., 2013; Lanaan, 2010; Authors, 2017). So, students' confidence in diverse academic situations provides useful information to the project. Confidence needs to be sufficient to enter university and persevere with challenging third year modules, while realistic expectations about university life are linked with success (Jackson et al., 2000; Lehmann, 2012; Nicholson et al., 2011). Nicholson et al. found that "higher competence beliefs predict improved achievement and learning outcomes" (2011, p.287), but more specifically, students benefit from realistic expectations of the balance between their own agency in learning and the lecturers' role. ASP surveys and focus groups found that direct entry students expected a change in teaching style to more self-directed learning and an increase in volume and pace (Authors, 2017); students requested good information and support with academic skills. Nicholson et al. (2011) advocate activities which help students enter university with realistic expectations about learning and teaching. This paper investigates the academic confidence of associate students, especially compared to other direct entrants, to investigate the impact of these support interventions.

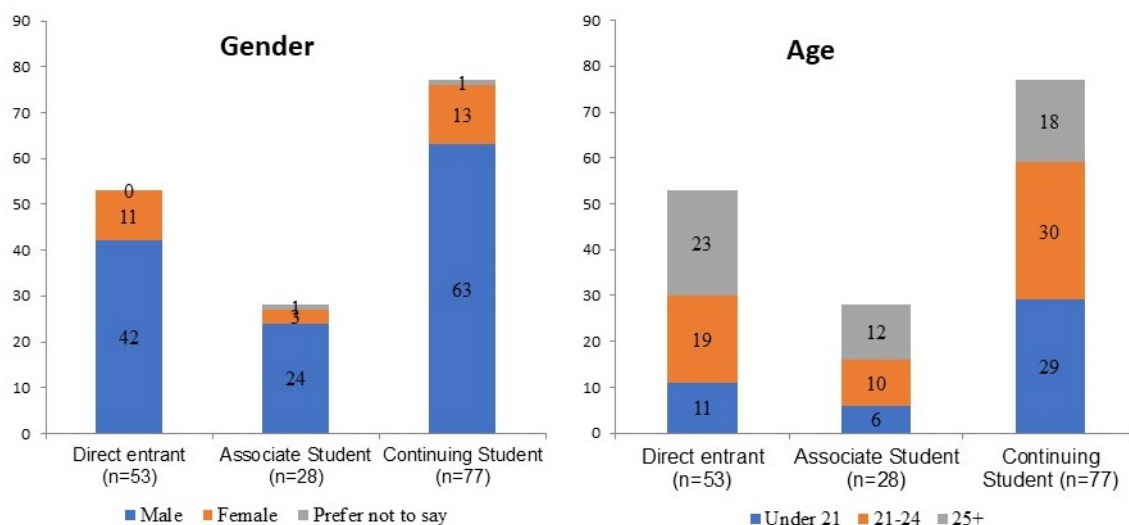
Methodology

Sanders and Sanders' Academic Confidence Scale (2003), later known as the Academic Behavioural Confidence (ABC) Scale (Sander & Sanders, 2009), was chosen to help understand students' experience and potentially measure the effect of ASP interventions, because it covers a range of university situations. These cover six factors (subscales): grades, studying, verbalising, attendance, understanding, and requesting (Sander & Sanders, 2003). Here, confidence is self-rated and domain-specific (Stankov et al., 2015). Importantly, ABC scores are "responsive to positive interventions" (Sander & Sanders, 2009, p.20).

Surveys measuring confidence using Sander and Sanders' (2003) ABC scale were administered to students within the School of Computing. Students were asked to rate their confidence about 24 university situations, using a 5-point scale (from "Not at all confident" to "Very confident"). Sample questions for each subscale are shown in Figure 2.

A total of 158 responses were considered in the current analysis, which draws on data from surveys in 2016 and 2017. The students were divided into three groups: *direct entrants* (DE; n=53) are students who enter the university in Year 2 or later; *associate students* (AS; n=28) are students who are part of the Associate Student Project and received an early intervention programme to help them transition to university life; *continuing students* (CS; n=77) are students who entered university in first year. A demographic of the sample is shown in Figure 1. A one-way ANOVA was run to compare group differences on the six subscales.

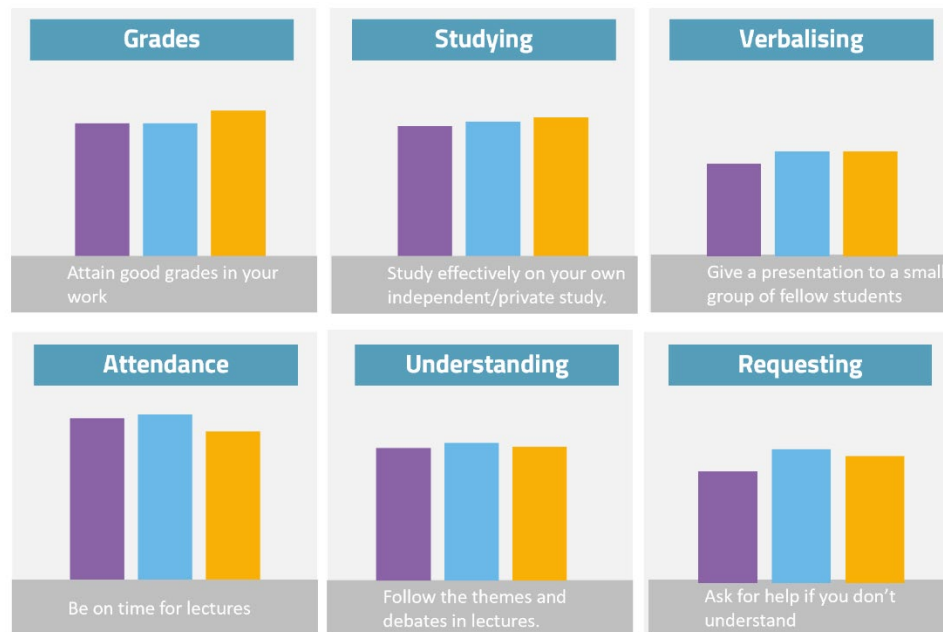
Figure 1. Participant demographic



Results

A summary of the groups' mean scores across the six subscales is presented in Figure 2, below. A score of 5 reflects a high confidence, whereas a score of 1 reflects no confidence. Most of the subscale scores, except for the DE's (mean = 2.89) and AS's (mean = 2.95) score on verbalising, were above 3.0 which represents the neutral mark.

Figure 2. Group mean scores in ABC Subscales



Results of one-way ANOVA showed a significant difference between groups for the subscales *grades* ($p=.008$), *verbalising* ($p=.033$), *attendance* ($p=.003$), and *requesting* ($p=.011$). Bonferroni post hoc analysis revealed a significant difference for the following items under these subscales:

- Grades: CS are more confident than DE ($p=.016$)
- Verbalising: CS are more confident than DE ($p=.044$)
- Attendance: DE and AS are more confident than CS ($p=.007$ and $p=.029$, respectively)
- Requesting: AS are more confident than DE ($p=.010$)

Discussion and conclusions

The analysis indicated that, for most of the subscales, the continuing students have higher confidence scores than the direct entry students. This finding is supported widely in literature that identifies gaps in performance and experience between direct entrants and continuing students (Reynolds, 2012). Direct entrants face transitional issues which have knock-on effects on their confidence (Christie et al., 2013). In the current study, the associate students who received additional support throughout their transition process, have closer parity in confidence with continuing students than other direct entrants. In addition, associate students' confidence on tasks that relate to requesting for information are higher than the other groups, perhaps due to the ASP's emphasis on providing good information to associate students.

Previous studies have shown that the support received by college students as they move into a university degree has a positive effect in their transition process (Laanan et al. 2010; Roberts & Connaghan, 2017). In Lanaan et al., students' encounter with university faculty while they were at college was a significant factor affecting student transition. The current study reflects this, as student feedback on events where they meet university lecturers has been positive. This suggests that the transitional support provided by the project may have had a positive effect on students' confidence scores. Confidence in requesting tasks (e.g. "ask for help if

you don't understand") should be reflected by a responsive environment, with regular opportunities for communication, continuing after the initial transition. Future work includes analysis of students' feedback about the different interventions, to assess how these contribute to their transition journey. On graduation, the degree achievements of each group can also be compared with their confidence ratings.

References

Authors (2017)

- Blackburn, L.H., Kadar-Satat, G., Riddell, S. & Weedon, E. (2016). *Access in Scotland: access to higher education for people from less advantaged backgrounds in Scotland, 2016*. Sutton Trust. http://www.suttontrust.com/wp-content/uploads/2016/05/Access-in-Scotland_May2016.pdf
- Christie, H., Barron, P., & D'Annunzio-Green, N. (2013). Direct entrants in transition: becoming independent learners. *Studies in Higher Education*, 38(4), 623–637. <https://doi.org/10.1080/03075079.2011.588326>
- Jackson, L. M., Pancer, S., Pratt, M. W., & Hunsberger, B. E. (2000). Great expectations: The relation between expectancies and adjustment during the transition to university. *Journal of Applied Social Psychology*, 30(10), 2100–2125.
- Laanan, F. S., Starobin, S. S., & Eggleston, L. E. (2010). Adjustment of Community College Students at a Four-Year University: Role and Relevance of Transfer Student Capital for Student Retention. *Journal of College Student Retention: Research, Theory & Practice*, 12(2), 175–209. <https://doi.org/10.2190/CS.12.2.d>
- Lehmann, W. (2012). Working-class students, habitus, and the development of student roles: A Canadian case study. *British Journal of Sociology of Education*, 33(4), 527–546.
- Nicholson, L., Putwain, D., Connors, L., & Hornby-Atkinson, P. (2011). The key to successful achievement as an undergraduate student: confidence and realistic expectations? *Studies in Higher Education*, 38(2), 285–298.
- Reynolds, C.L. (2012). Where to attend? Estimating the effects of beginning college at a two-year institution. *Economics of Education Review*, 31, 345–362.
- Roberts, M., & Connaghan, L. (2017). Transitions, bridging and attainment: transition of HNC students into 2nd year degree. In *Learning and Teaching Conference Informing, Inspiring and Innovating* (pp. 24–25).
- Sander P., & Sanders, L. (2003). Measuring confidence in academic study: A summary report. *Electronic Journal of Research in Educational Psychology and Psychopedagogy*, 1(1), 1–17.
- Sander, P., & Sanders, L. (2009). Measuring academic behavioural confidence: the ABC scale revisited. *Studies in Higher Education*, 34(1), 19–35.
- Scottish Government (2018). *Learner Journey: Analysis of Scottish education and training provision for 15 to 24 year olds*. <http://www.gov.scot/Publications/2018/03/8314>
- Stankov, L., Kleitman, S., & Jackson, S.A. (2015). Measures of the Trait of Confidence. In G. Boyle, D. Saklofske & G. Matthews (eds.) *Measures of Personality and Social Psychological Constructs* (pp. 158–189). Elsevier/Academic Press.