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An Enhanced Route from FE to HE Graduation?

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ABSTRACT

This study explores student transitions from further (FE) to higher (HE) education through the Associate Student Project (ASP) and examines the effectiveness of this enhanced transition programme for direct entry students. Universities are expected to plan transitions for young people, ensuring courses support articulation and provide seamless progression (Scottish Government, 2014). The *Access in Scotland* Report (Hunter Blackburn, Kadar-Satat, Riddell, & Weedon, 2016) called for further research into retention strategies for disadvantaged students and the development of appropriate support methods. Through the ASP, Edinburgh Napier University has introduced targeted learning opportunities to enhance student progression and attainment, by addressing barriers to success in the different HE environment, creating opportunities for students to develop their confidence and the academic skills which will help them to succeed at university.

For some, the journey to university is seen as a 'rite of passage' (Giddens, 1991); others have no family history of university study and the journey from college to university is an unknown path. This research makes use of focus groups involving articulating students, both before and after transitions from college into adjacent degree courses, to examine their experience of the transition, combined with data from large scale surveys of all undergraduate students in the School of Computing and the associate students currently studying in college and, importantly, the university's retention and attainment data.

Keywords: transition; retention; attainment; college articulation; progression

Introduction

The Associate Student Scheme was introduced by the Scottish Funding Council (SFC) in 2013 with a remit to improve the transition from college (further education institute/FEI) to university for direct entry (DE) students – to improve the students' experience and outcomes. Studying an HND (Higher National Diploma) at college and then entering directly into 2nd or 3rd year of a university degree programme is a key way to widen access to university, but involves challenges for students and staff. The ASP aims to build partnerships between FEIs and universities; to map the curriculum between college and university programmes and align teaching and assessment methods; to address gaps in provision; and to embed core academic skills (SFC, 2013). Now in its 4th year, the ASP, within Edinburgh Napier University's School of Computing, provides a range of interventions to support DE students, from their 1st year at college to their final year at university. This case study describes the AS transition programme, which, in the academic year 2016–17, saw over 250 students join 16 programmes across the school. AS mechanisms are designed to enhance the transition from college to university, not only for associate students but for direct entrants in general. The ongoing evaluation prioritises identifying student perceptions, gathered through surveys, focus groups, and the active participation of student interns. These are combined with analysis of the university's retention and attainment data to identify the impacts of the project.

Widening participation is a key directive for Edinburgh Napier University and is aligned with the Scottish Government's goal to reduce the participation gap between students from the most and least advantaged areas; this gap is currently greater in Scotland than the rest of the UK (Hunter Blackburn et al., 2016; cf. Figure 1: *Scottish 18 year olds' entry rates to university by SIMD groups*, UCAS, 2016, p. 104). For universities, FEIs are important recruiters in this agenda. Direct entry schemes offer students a direct route for continued study from HND to degree programme. Students study for two years at college, followed by two years at university, with no loss of time or repeat of study at the same level. This 2+2 model of delivery (SFC, 2013) is underpinned by the Scottish Credit Qualifications Framework (SCQF). However, the transition from college into 2nd or 3rd year at university can be difficult in all sorts of ways, and direct entrants are vulnerable to drop out or under perform. The ASP aims to support these students, and to investigate and evaluate this support. Student perspectives are prioritised in designing interventions, as well as in evaluation.

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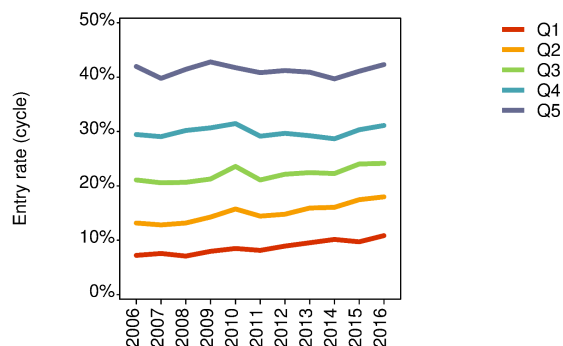


Figure 1: Scottish 18 year olds, entry rates by SIMD groups (Q5 = least deprived) (UCAS, 2016: 104).
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Transitions

In the past ten years, the number of students enrolling for FE or HE following compulsory schooling has increased, along with a decline in youth employment (Snelson & Deyes, 2016). For many, the transition from education to work is delayed. Cregan (2001) suggests that education has become a substitute for youth employment, aligned to the demand for high-skilled workers. Canny (2001) identifies the increased size of the middle class with increased educational aspiration, leading to a rise in the number of adult returners who view education as an insurance policy against unemployment. Within the UK, the sector's expansion has also led to the development of transition programmes, articulation agreements, foundation degrees, and top-up courses. Cree, Hounsell, Christie, McCune, and Tett (2009) found that students recruited to higher education under these arrangements, while fulfilling widening participation agendas, often undertake this transition without adequate preparation. These students are following a delayed transition, at odds with the rest of their family and their peers, becoming a different person and potentially feeling out of place (Ball, 2006).

The literature highlights three important concepts for this study: 'delayed transitions' (Ball, 2006), 'fractured transitions' (Coles, 1995; Furlong & Cartmel, 2004), and 'identity horizons' (Côté, Skinkle, & Motte, 2008). The notion of 'delayed transition' (Ball, 2006) is important for many of the direct entrants – they may have been unable to start university in 1st year with their high school peers (due to entry requirements, personal or financial reasons) and are making this transition into 3rd year, joining their peers, but with reduced sense of belonging or university student identity. 'Fractured transitions' is also a fitting term for this student journey, although direct entry students rarely take a break between college and university. The 'identity horizons' model describes how an individual's self-concept, based on culture and prior experiences, affect their perceived suitability for study at university (and employment). This is particularly pertinent for students who are the first person in their family to go to university (Côté et al, 2008).

Community college transfers

Akin to the Scottish system, community colleges in America offer a gateway to higher education for students who are from low income or first-in-family backgrounds. The *Transfer Playbook* was developed by the Aspen Institute and Columbia University's Community College Research Center to provide best practice advice around successful student transfer, including creating clear pragmatic pathways and tailored advice for students (Wyner, Deane, Jenkins, & Fink, 2016). The report recommends that students should be engaged in a robust 'onboarding' process that involves frequent and regular meetings with their advisors. The report offers sound advice for bureaucratic and organisational elements of transfer, but places little emphasis on the social aspects, with no reference to identity or belonging as concerns for students.

Swanson (2008) analysed student records in the US national database and concluded that students who gained college credits through dual enrolment were more likely to enter college and to persist to 2nd year. Dual enrolment participants who demonstrated 'academic momentum' (early acquisition of credit and immediate entry to college) were more likely to complete their degrees. Adelman (1999) coined the term 'academic momentum' in the context of community college transfer programmes: undergraduates who proceed through college at a certain rate are more likely to complete their degrees than otherwise similar students who progress more slowly or who interrupt their studies (fractured transitions). The academic momentum gained by dual enrolment means that students do not 'restart' at each new level of education, but carry over skills, aspirations, and perceptions (An, 2013). On examining the effect of dual enrolment on academic performance and college readiness, An (2013) found that participation in dual enrolment increased 1st year grade point average (GPA) and decreased the likelihood of remediation (the need to take remedial courses which do not earn college credits).

Academic and social integration

Widening participation is not simply about widening access, but also supporting the integration and success of students who gain access. Academic and social integration are the two components of successful integration (Tinto, 2012). New students, particularly those who join existing cohorts, have to make connections with university faculty and academic requirements (academic

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integration), and often struggle to fit in, citing concerns around making friends (social integration) (D'Amico, Dika, Elling, Algozzine, & Ginn, 2014). Social integration can be defined as the social interactions the student experiences, either through institutionally provided activities, or informally, through interaction with fellow students (Strahn-Koller, 2012). Social integration can occur naturally when students are living on-campus and their daily lives are encompassed by their student identity; however, the associate students in this study live off-campus and are subject to external demands, such as part-time work, child or caring responsibilities. This has a direct and significant influence on both their academic and social integration (Strahn-Koller, 2012, p. 29).

Listening to students who had made the transition from college to university, Strahn-Koller uncovered suggestions for easing academic and social integration through peer support and social networks (2012), including offers to advise and support students by acting as peer mentors or buddies. In a literature review for the Higher Education Academy (HEA), Gazeley and Aynsley (2012) examined pre-entry interventions and emphasised the importance of processes which nurture the formation of peer support, both academically and socially. Black and MacKenzie (2008) contended that peer support aids engagement with the institution through increased motivation and by building a sense of belonging for 1st year students. Like 1st year students, associate students need to adjust to the new environment of university study. This social adjustment is the process by which students become integrated into the university community, build support networks, and negotiate university life (Gray, Vitak, Easton, & Ellison, 2013). Tinto (2012) advocates the use of peer mentors, confirming their usefulness in integrating new students with the unfamiliar world of the university in ways that faculty and staff cannot. Research carried out by the HEA, in partnership with the National Union of Students (NUS) Scotland, found that students gained additional benefit from speaking with other direct entrants or students in later years of university, who could advise them and tell real *stories of transition* (HEA & NUS, 2013).

The elements of the Associate Student Project

Curriculum mapping and articulation agreements

Certain Edinburgh Napier departments, including the School of Computing, collaborate with participating FEIs to align courses and establish progression routes to degree courses. In this way, the content of specific college courses is aligned with the 1st year or two of selected computing courses, so that, for example, a student achieving HND Networking in college could enter 3rd year of BEng Computer Security and Forensics at university, with the appropriate skills and knowledge. The associate student scheme also manages articulation agreements concerning the number of university places available through these routes each year.

Associate students in college

One of the central innovations of this project is to identify cohorts of HND students, at certain FE colleges, and make them associate students of Edinburgh Napier University. This involves matriculating students in their 1st year at college, so that they have university student cards and can use university facilities, such as libraries, computer labs, and fitness centres. ASP staff work with these students to strengthen the skills they will need at university, such as academic writing and referencing, and to introduce them to aspects of university life, such as the campus, lectures, and lecturers. ASP staff run sessions at each college, such as workshops on completing UCAS forms and on using the university's online learning environment, Moodle. They also organise lectures within the colleges by university staff.

From their 1st year at college, associate students are invited to events at the university, such as an induction day that includes a lecture and tour. Certain timetabled lectures are identified as *drop-in* lectures and associate students are invited to attend. In the final semester before transitioning, ASP provides *Let's Start* days, on campus, to orientate the college students in advance of entering university. Peer support (buddy scheme) is made available to all associate students in the 1st semester. Buddies have previously made the transition from college to university. The pilot student mentoring scheme started in the semester before students joined the university (Meharg, Tizard, & Varey, 2015). This is difficult to implement because of the very different term structures between the university and colleges; however, buddies are matched before the summer and may meet, for example at the *Let's Start* event in June.

The teaching materials from 1st and 2nd year university modules are made available online to associate students, within a specially-created section on Moodle. These can be accessed while the students are at college or at university, when they may identify gaps in their knowledge. There is also a Facebook group, managed by ASP student interns.

Associate students at university

ASP provides initiatives to support all direct entry students once they have started university. Social events, such as pizza lunches, provide opportunities for direct entrants to build networks with other students, including those transitioning with them and DE students later on in their degrees. These are also opportunities for students to chat with ASP staff and computing lecturers. Concerns can be raised and addressed and staff can identify issues and get feedback on elements of the associate student programme. Associate students are also employed as interns and student champions. These students primarily help with communications, directly, for example with their peers or via social media, and through creating materials about the project, such as publicity leaflets and videos.

Throughout the ASP, interventions are emergent, designed and improved according to students' suggestions and feedback. Meharg

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et al. (2015) provide more detail about the diverse elements and motivations of the ASP, including the genesis of the peer-mentoring scheme, inspired by student survey responses.

Evaluation methods

ASP gathers students’ perceptions through focus groups, surveys, and evaluation of events. Quantitative data is available through university records of student attainment. However, the progress of individual associate students has not been followed longitudinally or across data sets. Following Edinburgh Napier University’s ethics procedures, a self-assessment form was completed at the beginning of the project. This highlighted the need to anonymise data gathered from participants as early in the research process as possible, and store any identifying data securely. Participants in interviews and focus groups sign informed consent forms. Survey participants need to consent to the university using the information that they provide for research.

Student perceptions

For the last three years (2014–16), all undergraduate students in the School of Computing have been encouraged to complete online surveys concerning their feelings about the coming year at university. Questions are devised to surface issues of confidence and identity. All respondents are asked to rate nine aspects of studying at university according to how challenging they will be. They are also asked to rate their confidence in tackling 24 university tasks; for example, studying independently or writing in an appropriate academic style. These surveys also include demographic questions. For years 2 to 4, the surveys include questions asking whether the students are direct entrants (DE) or studied at the university from 1st year (continuing students). In 2016, 3rd year students were also asked about whether they had been associate students and about related perceptions. Parallel paper surveys are distributed to 1st and 2nd year associate students, studying at partner colleges. These include the challenges and confidence questions, plus questions specific to transitioning to university in the future. **Error! Reference source not found.** details the response rates to the annual surveys. Higher response rates in early years may reflect the provision of incentives (prizes) and clearer lines of communication with the colleges at the beginning of the project.

In 2014, 3rd year direct entrants completed an anonymous questionnaire about belonging. In 2015, questionnaires were completed by samples of computing students (DE and continuing) in years 3 and 4. Finally, students who attend events are asked to complete short evaluation questionnaires.

As student perceptions are considered central to monitoring the progress of the project, students have also been interviewed, both individually and in focus groups. Meharg and Craighill (2014) analyse these focus groups using themes of belonging, especially Whitchurch’s (2008) notion of the ‘third space’. In 2013, 3rd year direct entrants were interviewed. In 2014, exit interviews were conducted with 4th years, as they completed their degrees. Peer mentors and mentees were interviewed (Meharg et al, 2015). In 2014 and 2015, focus groups were conducted with associate students, at college in 1st and 2nd year, and with 3rd year direct entrants at university. Transcripts were analysed by responding to themes aligned to the goals of the project, themes coming out of the literature, and themes arising across the research data.

Table 1: Response rates to annual survey.

Survey (autumn)	Student respondents	Cohort	Valid responses	Response rate
2014	School of Computing FT undergraduates (Y1 to Y4)	1045	596	57%
2014	Associate students at college (Y1, Y2)	129	110	85%
2015	School of Computing FT undergraduates (Y1 to Y4)	1103	485	44%
2015	Associate students at college (Y1, Y2)	190	96	51%
2016	School of Computing FT undergraduates (Y1 to Y4)	1269	370	29%
2016	Associate students at college (Y1, Y2)	202	64	31%

Staff perceptions

Interactions between direct entrants and lecturers are important factors in student transitions. University lecturers can seem distant and formal compared to college lecturers. Additionally, direct entrants move into a situation where other students have been working with the university lecturers for one or two years already. Historically, direct entrants from college have had lower rates of success in terms of completing their degrees, especially completing with honours. Tinto (2012, p. 4) reminds us that “Student success is directly influenced not only by the clarity and consistency of [staff] expectations, but also by their level. High expectations are a condition for student success...no one rises to low expectations.”

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In 2016, focus groups were held with academic staff to discuss their perceptions of direct entrants. This dialogue also functioned as an intervention, encouraging lecturers to be conscious of the students' contexts and take these into account in their interactions. Focus groups and interviews were also conducted with staff at another local university, to provide comparative data and feed into this investigation of student transitions.

University data

Prior to the establishment of the ASP, direct entrants from college were significantly less likely to progress to 4th year honours, rather than leaving at the end of year 3 with an ordinary degree, and students who had entered university in 2nd year were more likely to progress into 4th year than students who had entered university in 3rd year. **Error! Reference source not found.** shows the percentages for UK-domiciled computing students from 2011 to 2016. However, direct entrants who graduated with honours (between 2011 and 2015) had similar success in terms of award (for example getting a 1st or 2:1) to people who had studied at university since 1st year.

As this is the fourth year of the associate student programme, this is the first year in which students who have taken part in the programme as associate students have started the 4th year of their degree. Thus, any improvement in these figures may stem from the programme's interventions. However, figures for the current year are not available for publication yet.

Table 2: Percentage of year 3 students progressing into year 4 honours (UK-domiciled).

	2011/12	2012/13	2013/14	2014/15	2015/16
University from 1 st year	77%	80 %	83%	79%	82%
Direct entrant into 2 nd year	73%	76%	77%	50%	80%
Direct entrant into 3 rd year	56%	63%	54%	58%	66%

Interim findings

The ASP team now have a wealth of data, especially students' perceptions of the transition from college to university. The experiences of each cohort of students diverge according to, for example, the college they attended, the subjects they study, and their position in the timeline of the project. Throughout the project, interventions have also been piloted and improved, in line with student feedback. In this mutable context, students describe their transitions into university in terms of academic, social, and logistical challenges.

One consistent theme across the data is the difference between teaching styles, with students describing learning at college as being 'spoon-fed', while self-directed study is necessary at university. For example, a 3rd year DE student, responded in a survey:

At college it felt like we were being spoon-fed information and just had to learn what was presented. However at university I feel like we are given resources that we can access and the more effort we make to use those resources, the more we gain from the course.

An associate student at college, looking ahead, observed: "It's one thing being intellectually capable of doing it, but the change in the lifestyle from being spoon-fed here to do it yourself at uni, I think that's the biggest change." Asked, in a survey, whether college had adequately prepared them for university, one 4th year reflected that they were "Too spoon-fed at college." The interaction with lecturers is reduced at university compared to college, and university students need to take more control over their own learning. The social dynamic may also be different, initially, between lecturers and DE students compared to continuing students. This came up in focus groups: lecturers may have taught some students since 1st year and they know their names, whereas it takes time to recognise DE students. Meharg and Craighill (2014) suggest that integrating into the university community (socially and academically) can positively influence the students' academic performance. Students transitioning from college are also likely to experience logistical difficulties around integration if they have not moved nearer to the university. Lecturers in focus groups identified living more remotely, and needing more travel time and money for fares as factors in potentially dropping out. This was also identified as a concern by college students prior to transitioning: "It takes me about two hours to get there and two hours to get back."

Associate students at college are also concerned about the increase in workload at university: "If what the other students said is anything to go by, the workload is going to triple"; "I fully expect the workload to quadruple, or whatever". However, after a while at university, direct entrants became at least as confident as continuing students about their ability to tackle this by working hard: of 4th year respondents to the annual online survey, 67% of DE students and 67% of students who had studied at the university since 1st year felt that "Managing my time and self-discipline in studying" would be challenging or very challenging. Whereas, among 3rd year respondents, 80% of respondents who had just transferred directly into 3rd year felt this would be challenging or very challenging, compared to 71% of students at university since 1st year. Crucially, associate students identified roles for the project in supporting transitioning students by warning them about the change in volume and style of work. Associate students at college in 2015 valued getting "a better idea of the workload, that's going to make all the difference". They asked for access to university course materials,

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even an assignment that would be marked. They valued research and referencing workshops, access to university lectures and lecturers, and speaking to students who had successfully transitioned into university. Asked, in the annual survey, “What advice would you give to another student planning to come from college to university?” an associate student now in 4th year recommended “Prepare to work hard and enjoy it”; other 4th year DE students answered “Don't take it your studies too lightly!” and “You need to be more mature and diligent and that you will need to research and do your own work with little supervision.” ASP have iteratively developed interventions in response to the transitional challenges around differences in teaching, study styles, workloads, and even the logistics of attending university. These include increasing students’ awareness of university life before they attend, through guest lectures, drop-in lectures, and access to materials online. Social opportunities and the buddy scheme provide opportunities for face-to-face support.

DE students remained less confident about their work than students who had studied at the university since 1st year. Figure 2 provides responses to the question “How confident are you that you will be able to attain good grades in your work?” from the 2016 survey. DE students in 2nd and 4th year, who entered university in 2nd or 3rd year, are more likely to answer at the bottom end of the confidence scale (1 or 2), and less likely to answer at the top (4 or 5) than continuing students in their year. None of the 3rd year DE students, who were in their 1st semester at university when they completed the survey, rated themselves as “very confident” (5) on this question, and this group were three times as likely as 3rd year continuing students in planning to “Leave at the end of year 3 and get a job” (20%, n=20; compared to 6.5%, n=31). However, 80% of this 3rd year DE group were planning to “Continue to year 4 and then graduate with an honours degree”, compared to 87.1% of those at university since 1st year and all six of the 3rd year respondents who had entered university in year 2.

Although DE students, whether at college or university, have realistic concerns about managing the latter half of their degrees, they also have attributes that may be lacking in continuing students, specifically excitement and enthusiasm. The annual surveys ask “What one word describes how you feel about studying at university?” Over 26% of 2nd year associate students at college described themselves as “Excited”. For 2nd year students studying at university who had been there the previous year, 5% were excited, whereas 15% of DE students in 2nd year were excited. A lecturer described the contrast: “our students – by 3rd year their enthusiasm has dipped. They are a long way from starting and a long way from finishing. But the ones coming in have a lot of enthusiasm and are a little more fired up.”

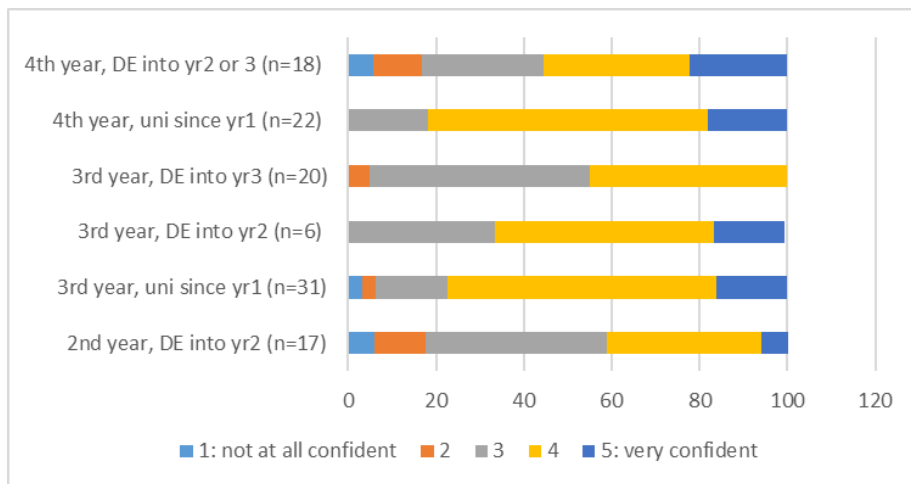


Figure 2: How confident are you that you will be able to attain good grades in your work? (Online survey 2016).

Conclusions

There are many challenges for computing students transitioning from college with a Higher National qualification, into university, ideally to successfully complete an honours degree. There are academic and social challenges, in many cases combined with logistical challenges. The ASP aims to mitigate these challenges and support direct entrants to achieve their full potential. This support involves a range of interventions, through the students’ FE and HE journeys, from giving college students access to university resources to providing networking opportunities for DE students at university. As the project matures, the interventions develop according to student feedback, in order to become more effective. In parallel, the data used to evaluate the project becomes more stable, especially looking forward to associate students completing honours degrees. These students’ narratives can also be used, where appropriate, as success stories to motivate DE students lacking confidence.

This case study has highlighted the particular challenges faced by students transitioning to university on advanced standing articulation routes, and ASP’s diverse activities to support them. Student feedback about this support is positive and constructive. In

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the next years we hope the university's retention and attainment data will reflect the positive impact of the Associate Student Project. ASP are now working with staff across the university to support similar interventions for DE students in other schools, as well as sharing lessons learned with other universities, colleges, and interested organisations. The parallel challenge is to adapt to changes in funding to build a sustainable model.

Biographies

Debbie Meharg is a Senior Teaching Fellow based within the Centre for Computing Education Research and has led the ASP since its inception in 2013. Debbie worked to develop a model of interventions for transitional students, which has informed research through listening to the student voice and continuous evaluation.

Dr Ella Taylor-Smith has 15 years of research experience, within Edinburgh Napier University's School of Computing. Within the Centre for Social Informatics, Ella has been investigating the role of internet technologies in democracy (eParticipation). Within the Centre for Computing Education Research, Ella studies work-based learning and transitions into university.

Alison Varey is the Project Director for the Associate Student Project and the new Graduate Level Apprenticeship programmes in the School of Computing at Edinburgh Napier University. Her interests are in work-based learning and widening participation through the development of non-traditional routes in higher education.

Carole Mooney has worked in the area of widening access in the FE and HE sectors for over 14 years. Based in the Widening Participation department at Edinburgh Napier University with a focus on articulation, Carole also works with colleagues in the School of Computing on the Associate Student Project.

Simone Dallas works within the School Support Service as a Placement Coordinator with the aim of increasing student access to paid placement opportunities. She works within the School of Computing and supports colleagues leading the Associate Student Project at Edinburgh Napier University.

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