TRANSITION FROM SECOND LEVEL AND FURTHER EDUCATION TO HIGHER EDUCATION

Focused Research Report No. 6 **2015**

Scholarship in Teaching and Learning funded by the National Forum:

Strengthening Ireland's evidence base for teaching and learning enhancement in higher education

NATIONAL FORUM
FOR THE ENHANCEMENT OF TEACHING AND LEARNING IN HIGHER EDUCATION

PREFACE TO NATIONAL FORUM FOCUSED RESEARCH PROJECTS

The National Forum for the Enhancement of Teaching & Learning in Higher Education is a key consultative forum and an evidence-based change agent for teaching and learning enhancement and innovation for impact. It works in partnership with students, teachers, experts, learner support providers and researchers - and with institutional and system level leadership throughout the sector to provide thought leadership on developing future-orientated aspects of teaching and learning on Ireland's emerging higher education landscape.

As part of Forum's commitment to leading and facilitating enhancement from an evidence-based standpoint, it has funded a series of Focused Research Projects to be conducted over a six month period by higher education researchers in partnership with the National Forum. These projects were designed to facilitate rapid and focused research on specified themes to inform academic practice and guide enhancement activities, including:

- Transitions to higher education
- Student completion and retention in higher education (qualitative studies)
- Open Education Resources and Open Access
- Recognition of Prior Learning
- Research on Higher Education Teaching & Learning in Ireland

Successful projects were awarded funding by the Forum following competitive selection, based on international peer review and were initiated in December 2014. They ranged in scope from national analysis of existing practices and policies to in-depth case-studies located in small clusters of institutions. Ethics approval for the projects was granted through the higher education institutions involved and the National Forum's Research Ethics Committee.

Collectively the projects have now created a baseline understanding in a national context on these topics, as well as a springboard for future enhancement activities and further practice/policy developments. Importantly, the successful completion of these projects attests to the collaborative partnership and engagement between the Forum and higher education institutions in developing a shared common purpose for evidence-based enhancement activities. In addition they also demonstrate the potential for contributing to the research and scholarship of Irish teaching and learning locally and internationally through peer-reviewed publications. The Forum in line with its scholarship strategy will support project teams to achieve this objective.

Transition from Second Level and Further Education to Higher Education

Uniquely, this research examines students' experiences of the transition to higher education in Ireland and in so doing contributes to the growing knowledge and understanding of this important aspect of higher education in Ireland. Drawing on the experiences of a sample of students in four Irish higher education institutions, the study examined to what extent early higher education students have been equipped with the skills, competencies and orientations they need to succeed. It also examined students' perceptions of the differences in the teaching and learning context from their previous experiences at second level or further education.

Students' views were gathered through a survey of 1580 students which had been informed by key international and Irish literature on transitions to higher education. Ten focus groups were

undertaken with student participants at the four higher education institutions. Analysis of the survey data focused on students' experiences of transitions, influencing factors, the duration of the transition and any impacts on academic performance. Focus groups allowed for in-depth exploration of the key challenges faced by students and their insights into the skills and attributes required to be successful in higher education along with suggestions for improvements.

Overall the research found that time management was the most significant challenge of the transition from second level to higher education, followed by written assessments, critical thinking and conducting independent research. Suggestions for improvements made by students were grouped across four themes: higher education supports, second level academic supports, managing expectations and engagement, and general skills preparation. Students also acknowledged the effectiveness of existing support initiatives at second level and in higher education which should be increased to support the transition experience.

Thanks is due for the commitment and energy invested by the Project Team led by Dr Eleanor Denny (Trinity College Dublin) supported by research assistant Florence Dowling in partnership with Dr Fiona Farr and Dr Angelica Risquez at the University of Limerick, Dr Geraldine Brosnan and Dr Anne O'Keefe at Mary Immaculate College, and Mr Seamus Hoyne, Dr Martin Fitzgerald and Dr Michael Ryan at Limerick Institute of Technology. The National Forum looks forward greatly to its ongoing partnership with the Project Team in sharing the outcomes of this projects for the benefit of the wider higher education sector during the next academic cycle and beyond.

For further information on all of the National Forum Focused Research Projects please see: http://www.teachingandlearning.ie/t-l-scholarship/national-forum-research-projects/.

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Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

University of Limerick
Ollscoil Luimnigh

Coláiste Mhuire Gan Smál
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Mary Immaculate College
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LIT

National Forum
for the Enhancement of Teaching
and Learning in Higher Education

Transition from Second Level and Further Education to Higher Education

Focused Research Project #6

Final Report

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In partnership with:
University of Limerick
Mary Immaculate College
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Executive Summary / Summary for Policy makers

This project examines the views of participating students on their transition from second level and further education into higher education. To date there has been very little research conducted on transitional issues in Ireland, thus this study represents a unique insight into the views and experiences of a sample of Irish students transitioning to higher education.

This research was conducted on a case study of four higher education institutions in Ireland: Trinity College Dublin; University of Limerick; Mary Immaculate College; and Limerick Institute of Technology. Within these four institutions there are two universities, one college and one institute of technology thus they are broadly representative of the third-level sector in Ireland and there are a wide range of programmes and courses represented across these four institutions. There is also a distribution in student achievement and geographical location across these four institutions.

The research for this project involved a large survey (with 1,579 responses) and ten focus groups across these four higher-level institutions which generated a rich data set for analysis. While this is a relatively large dataset, it should be noted that given that this case study is based on research in just four institutions, the results and conclusions from this study should be considered within the confines of this case-study and generalisations to the whole higher education sector should be conducted with caution. Notwithstanding this, there were a wide range of issues and recommendations arising from the students' responses which point to important factors that these students see as enabling effective their transitions. These issues and recommendations are summarised here.

Time management was identified by the students as the most significant element of the transition from second level to higher education. This was followed by a change in the requirements for written assessments, critical thinking and conducting independent research. Other areas identified as challenging included increased personal responsibility, financial and social challenges.

Older students were found to be statistically significantly more likely to be challenged with the transition to higher education. Commuting distances were also found to have a significant impact on transition, with those commuting longer distances finding the transition more challenging than those living closer to campus. Those students who undertook further education courses prior to commencing in higher education found these courses particularly helpful in assisting the transition.

A negative experience of transitioning to higher education was found to have an adverse impact on academic grades at higher education with students reporting challenges with the transition less likely to achieve high grades. Time management was found to have the greatest impact on academic performance and was found to be the challenge which takes the longest to overcome.

The students were asked to suggest measures which would help future students in the transition process. There were almost 1,100 suggestions made which fell into over 35 separate categories across four themes. These themes fall broadly into following four categories:

- higher education supports,
- academic skills preparation at secondary level,

- managing expectations and engagement, and
- general skills preparation.

Under higher education supports the students suggested more introductory classes on the academic skills required for higher education such as referencing, essay writing, note-taking etc. In particular, many students suggested that introductory courses should be more course specific and would benefit from being delivered by students rather than faculty and staff. The students were highly complementary about existing student to student mentoring schemes and staff mentors and recommended expansion of these schemes. Greater support by higher education institutions regarding the social aspects of the transition were suggested by many students including more course specific ice-breaker activities, use of social media and dedicated communal meeting places for first years and mature students. In addition, greater promotion of the supports already in place was recommended.

There was a wide range of student suggestions for academic skills preparation at second level with the most common being less rote learning and more critical thinking and the use of more research projects requiring students to use skills such as referencing. In terms of building confidence in their own opinions and developing necessary skills for higher education, there were many suggestions recommending greater use of group work, presentations and computers at second level. Students also suggested more continuous assessment and project work in secondary school. In particular, the research project in the History curriculum for the Leaving Certificate was cited as being good preparation for the sort of critical thinking and research required in many higher education contexts.

Many students stated that a significant contributor to the transitional challenge was unrealistic expectations surrounding the details of their course and the level of work required. There were multiple suggestions for more information on the realities of studying different courses and on college life in general. It was suggested that higher education institutions should prepare a course-specific 'welcome pack' for incoming first years which would provide in-depth information on the realities of individual courses, campus maps and details of where their course would be located, testimonials acknowledging that students often find the transition difficult and information on the range of supports that are available. At second level, students suggested that schools should invite former students to return to their alma maters and provide talks on what being a higher education student is really like and about their own experiences of the transition.

The most common suggestion on general skills preparation was to introduce a 'college experience' programme in secondary schools similar to the 'work experience' component of many transition year programmes. It was clear that some students had been provided with an opportunity such as this in week-long 'shadowing' programmes, however, this practice did not appear to be widespread and increasing the use of these programmes was generally encouraged. Also, those students who had undertaken further education and access courses prior to entering higher education were particularly complimentary about the general skills that these courses provided.

While the students made a great many suggestions on how they could be better assisted in the transition to higher education, there was also acknowledgement by the students that some existing measures are highly beneficial. In particular, the aforementioned supports and skills provided in access programmes and further education courses; the general skills and opportunities developed in good Transition Year programmes; the academic and critical thinking

skills nurtured in some programmes at leaving certificate, such as the History curriculum; higher education student 'shadowing' programmes at second level; and student to student programmes and staff mentoring at higher education.

In conclusion, the students reported a large number of challenges encountered when transitioning from second level and further education into higher education and the results and analysis in this report indicate that these challenges are not necessarily short-lived in duration and have a negative impact on academic achievement at higher education. However, there are a range of measures which the students acknowledge as being particularly helpful in the transition and they recommend increased use of these measures as well as a host of other suggestions for both the secondary and higher education sectors, many of which are likely to be relatively simple and inexpensive to implement.

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Glossary of Terms

BESS	Business, Economics and Social Science
DARE	Disability Access Route to Education (admissions process for students with disabilities)
FETAC	Further Education and Training Awards Council
HEAR	Higher Education Access Route (admissions process for disadvantaged students)
LC	Leaving Certificate examination (final examination at second level)
LIT	Limerick Institute of Technology
MIC	Mary Immaculate College
PLC	Post Leaving Certificate
QQI	Quality and Qualifications Ireland State Agency
Second-Level	Secondary school education
SPHE	Social, Personal and Health Education
TAP	Trinity College Dublin Access Programme
TCD	Trinity College Dublin, The University of Dublin
Third-Level	Post-secondary, undergraduate education. Also referred to as higher level education
TY	Transition year
UL	University of Limerick

1. Introduction

1.1 General Introduction

This research addresses the National Forum's focussed research project to review the ways in which students are best prepared to participate successfully in higher education and to make the transition from second and/or further education to a higher education learning context. In particular, it aims to address to what extent early higher education students have been equipped with the skills, competencies and orientations they need to succeed in Irish Higher Education.

The project team conducting this research is led by Proof Eleanor Denny at the Department of Economics at Trinity College Dublin, supported by research assistant Florence Dowling. Project partners are Dr. Fiona Farr and Dr. Angelica Risquez at the University of Limerick, Dr. Geraldine Brosnan and Dr. Anne O'Keefe at Mary Immaculate College, and Mr. Seamus Hoyne, Dr. Martin Fitzgerald and Dr. Michael Ryan at Limerick Institute of Technology.

This study is based on data collected from students in four Irish universities and colleges. These are Trinity College Dublin, University of Limerick, Mary Immaculate College and Limerick Institute of Technology. Within these four institutions there are two universities, one college and one institute of technology thus they are broadly representative of the third-level sector in Ireland and there is a wide range of programmes and courses represented across these four institutions. Given the range of academic programmes offered by these four institutions they represent a diverse student population across the spectrum of academic achievement. There is also geographical distribution with Trinity College Dublin being located on the east coast of Ireland in the centre of the capital city, with the other institutions being located in county Limerick, in the south-west of the country. However, it should be noted that given that this case study is based on research in just four institutions, caution should be used when generalising the results and conclusions from this study to the entire sector. The limitations of the sample are discussed further throughout this report.

Access to Universities and Colleges in Ireland differs, in some cases significantly, to that in other countries. For example, in the US, admission to university is often based not only on prior academic success but also on personal statements, references, extra-curricular activities etc. In Ireland, for the majority of students, admission is based on prior academic performance in a single examination alone. For those not familiar with the Irish education system, Section 1.2 below provides a brief summary of the salient aspects of the Irish education system.

It has been identified in the literature that diversity in background and preparation for higher education may affect a student's successful transition to higher education (Kift and Nelson, 2005). However, to date, much of the literature in this area has focused on the views of academics and experts on the issues surrounding transition. There has been very little research examining the views of students on the transition to higher education and their suggestions on what more can be done to better prepare them for the challenges of higher education. For this reason, this study represents an important contribution to the field through the generation and analysis of a large dataset of student views on various aspects of the transition to higher education.

In order to provide a general introduction to this study, Section 1.3 outlines some of the previous research in this field, however, it should be noted that this review is not an exhaustive

summary of all the research in this area. Focused research project #7 being led by Dr. Bettie Higgs and Dr. Catherine O'Mahony at University College Cork, involves a thorough review of the research in the area of transitions to higher education and should be consulted for a comprehensive review of the field. The review provided in the Section 1.3 aims to outline some of the general themes in the literature and highlight some of the issues with particular relevance to the Irish education system.

A summary of the data collection methodologies employed is outlined in Section 2 followed by the results and analysis in Section 3. The conclusions, acknowledgements and references are provided in Sections 4, 5 and 6 respectively.

1.2 Overview of the Irish education system

There are three main stages of education in Ireland: primary level (on average for ages 4 – 11); second level (ages 12 – 18); and third-level, also known as higher education or higher level, which represents Universities, Colleges, and Institutes of Technology. This report examines transitional issues for students moving from second level into higher education and as such will not discuss the primary level sector. It should also be noted that the focus of this report is solely on the education sector in the Republic of Ireland (hereafter referred to as Ireland).

In some cases, students can also undertake additional courses, often after completing their second level and prior to commencing higher education, which are generally referred to as further education courses where students can receive a FETAC (Further Education and Training Awards Council) or QQI (Quality and Qualifications Ireland) qualification. More than 20% of students entering third-level education in Ireland in 2010 were either mature students or had come from further education courses (Hyland, 2011). As such, this report will also examine transitional issues for students entering higher education from a further education course.

Education in Ireland is compulsory between the ages of five and sixteen or until students have completed three years of second-level education. Second level education consists of a three-year Junior Cycle (lower second level) followed by a Senior Cycle (upper second level). Senior Cycle can be either two or three years in duration depending on whether the school offers a transition year option. Transition year is an optional one year programme which can be taken directly after the completion of the Junior Cycle and typically offers students a wide programme of academic and non-academic activities and has the aim of "promoting the personal, social, educational and vocational development of students" (Department of Science and Education, 2004). Transition year often offers students the opportunity to undertake unpaid work placements in work environments in order to help them select areas of interest for study and employment post second-level.

At the end of the final two years of Senior Cycle students take a State Examination known as the Leaving Certificate[1]. There are over 30 subjects which can be examined in the Leaving Certificate and students are required to take at least five subjects, one of which must be Irish. Subjects are offered at honours level, ordinary level and, in some cases, foundation level with

[1] Students can also take the Leaving Cert Vocational Programme or the Leaving Cert Applied Programme and more information on these programmes can be found at www.education.ie. However, for the purposes of this report, the focus will be on the standard Leaving Certificate programme.

honours level being the highest level of difficulty. Currently grades in the Leaving Certificate are defined by the scales in Table 1, although it should be noted that new grading schemes are to be introduced from 2017 onwards (Humphries, 2015):

Table 1: Grading scale in Leaving Certificate Examination

Percentage Result	Grade		Percentage Result	Grade
90 – 100%	A1		60 – 64%	C2
85 - 89%	A2		55 – 59%	C3
80 – 84%	B1		50 – 54%	D1
75 – 79%	B2		45 – 49%	D2
70 – 74%	B3		40 – 44%	D3
65 – 69%	C1		≤ 39%	fail

1.2.1 Admission to Irish Third-Level Education

Higher Education in Ireland is mainly provided by seven Universities, fourteen Institutes of Technology, and seven Colleges of Education. In addition, a number of other higher education institutions provide specialist education in such fields as art and design, medicine, business studies, rural development, theology, music and law (Department of Education and Skills, 2015).

Under Irish legislation governing higher education, each institution is responsible for their own policies with regard to the selection of students for admission and typically specifies requirements for each course within their institution (Hyland, 2011). For example, Universities typically require students to have successfully passed English, Irish and four other subjects in the Leaving Certificate (or equivalent examination for international students). Individual courses will also have specific requirements, for example, Economics at Trinity College Dublin requires applicants to hold either a D3 grade in honours level Mathematics or a C3 grade in ordinary level Mathematics in the Leaving Certificate examination (or equivalent for international students) (Trinity College Dublin, 2014). These institutional and course level requirements are typically known as matriculation requirements.

Applicants for places on courses in higher education in Ireland must satisfy the minimum matriculation requirements for their course of choice, and when demand for places on a course exceeds number of places available, places are allocated on the basis of a rank order of students on a points scale (Hyland, 2011). The points a student earns are based on their results in six subjects of the Leaving Cert examination with the maximum number of points being 600. In 2012, a scheme was introduced to encourage more students to take honours level mathematics for the Leaving Certificate and awards a bonus of 25 points for these students. Thus, for students taking honours level mathematics, the maximum number of points which can be achieved is 625 (CAO, 2012).

The process of awarding points to students on the basis of their Leaving Certificate examination results is commonly referred to as the points system, or the CAO points system as it is administered by Central Applications Office (CAO). All universities, institutes of technology,

and colleges of education in Ireland use the CAO to select applicants for places on their courses[2].

Students specify their preference for higher education courses to the CAO and places are then allocated on the basis of points earned (subject to minimum matriculation requirements) until all places on a course have been filled. For example, a course with 20 places will be allocated to the 20 students with the highest CAO points who specified a preference for that course and who meet the matriculation requirements.

As a result of places at higher education in Ireland being allocated solely on the basis of points achieved, students' goals at second-level are often driven by the desire to maximise the number of potential points they can achieve and thereby maximise their likelihood of achieving their course of preference at higher education. As stated by Hyland (2011)

> *"Because the Leaving Cert is a high stakes examination, used as it is for selection to higher education, its backwash effect on teaching and learning and on the student experience, especially in senior cycle, is considerable. The points system influences an individual student's subject choice; the examination becomes the determinant of what is studied and how; non-examination subjects get little or no attention and in many cases, broader co-curricular activities are ignored or minimised. Student stress levels increase as the June examination looms and for some students their final year in school is an unhappy experience which they simply want to get through as quickly as possible."*

Approximately 75% of places at higher education institutions in Ireland are based solely on CAO points achieved. In other words, 75% of places are based on academic performance in a single examination at the end of second-level alone. This differs significantly to admission procedures in many other countries around the world and has many advocates as well as critics. A full discussion on the merits of the points system is beyond the scope of this report but readers are directed to Hyland (2011) for a comprehensive discussion of the points system and its many benefits and drawbacks. Also, it is noted that the Irish Universities Association Task Group on Reform of University Selection and Entry, led by Prof. Philip Nolan, is currently reviewing the CAO points system and is in the process of preparing a number of possible reforms to higher education admission (IUA, 2012). In addition, a recent report by State Examinations Commission et al. (2015) highlights a number of areas of recommended reform, namely: a new grading structure for the leaving certificate; addressing issues relating to predictability in the leaving certificate; a proposed approach for a revised common points scale for entry to higher education; and broader undergraduate entry.

Of the remaining 25% of students at higher education institutions, approximately 20% of these are represented by mature students and/or students who have undertaken a further education course (or courses) prior to acceptance at higher education. Higher Education institutions in Ireland typically reserve a number of places for mature students and places are allocated on a competitive basis. Mature students (those over 23 years of age) are eligible to apply for these places through the Central Application Office and must provide details on prior education, employment experience, English language proficiency, hobbies and interests, a personal

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[2] A small number of courses have requirements in addition to the results of the Leaving Certificate examination, such as music courses requiring a performance test; art courses requiring a portfolio of the students' work; and medicine students who are required to sit an additional test known as the HPAT-Ireland test.

statement and references. Mature student applicants are assessed on all information provided, and in many cases will also attend an interview at their institution of choice prior to being offered a place. Mature students represent approximately 15% of undergraduate students in Ireland (Carroll and Patterson, 2011).

Further education courses in Ireland are governed by the Quality and Qualifications Ireland State Agency and there are over 5,170 such courses on offer covering a broad spectrum of skills, vocations and disciplines across a range of qualification levels. Students with a further education qualification of level 5 or 6 (FETAC 5/6) are eligible to apply for certain courses in higher education institutions in Ireland. These applications are facilitated by the Central Applications Office (CAO) but utilise a different points system to that described previously for students seeking admission based on the Leaving Certificate examination[3].

Approximately 5% of places at higher education institutions are held by students who qualify for a reduced CAO points requirement through the Higher Education Access Route (HEAR) and the Disability Access Route to Education (DARE) schemes. The HEAR scheme is a college and university access scheme which offers places at higher education institutions on a reduced CAO points basis to school leavers from socio-economically disadvantaged backgrounds. The DARE scheme offers places with reduced points to school leavers with disabilities. These schemes are not the focus of this report, however, a thorough discussion and evaluation of these schemes can be found in Byrne et al. (2014).

1.2.2 What does it cost to attend third-level education in Ireland?

Under the terms of the Free Fees Initiative of the Irish Department of Education and Skills, the cost of tuition fees for the majority of undergraduate students at publically funded third-level institutions are covered by the Irish State. For a student to qualify for free fees they must be a resident of the European Economic Area (EEA) or Switzerland for at least three of the past five years prior to starting a third-level course in Ireland in addition to satisfying certain nationality and immigration requirements and course requirements. Thus, in significant contrast to higher education institutions in countries such as the United States, the vast majority of undergraduate students do not pay tuition fees in Irish third-level institutions.

Undergraduate students are required to pay an annual student registration fee, which is set at €3,000 for the 2015/2016 academic year to cover students services and examinations. There are a number of schemes available to students to assist in the payment of this fee and/or to grant exemptions from paying this fee, and it can also be eligible for tax relief.

In another deviation from institutions in the United States and elsewhere, the vast majority of higher-institutions in Ireland are non-residential. While the universities and many of the larger Institutes of Technology have accommodation facilities which are made available for undergraduate students, these places are limited and large numbers of undergraduate students live either in private rented accommodation or commute to college from their family home. While all higher education institutions in Ireland have accommodation offices to assist students in their search for accommodation, students are liable for the costs of accommodation

[3] Further information on the application process for students with FETAC qualifications can be found at http://www.cao.ie

themselves. Further details on the costs of attending higher education in Ireland can be found in UL (2015).

1.3 High level literature review

As mentioned previously, focussed research project #7 provides a comprehensive overview of the literature in this field and the discussion that follows here aims to merely provide a snapshot of this. It is not an exhaustive literature review but rather intends to set the framework for the discussions and analysis which follow in this report.

The literature on transitions has repeatedly asserted that students often struggle with the time management demands of higher education. The literature primarily considers time management skills as an important element of 'personal skills' that students bring to higher education and as such, the studies compare academic success to self-declared time management skills (Nelson and Pierce, 1987). The literature notes that the subjective assessment of whether the participants had good time management skills made the results questionable, and increasingly led to further analysis on performance versus students' confidence in their academic abilities.

An analysis by Trueman and Hartley (1996) indicated that female students reported significantly greater time-management skills than did male students, and that mature students reported significantly better time-management skills than did the other groups. Research by Goldfinch and Hughes (2007) showed that one of the most significant factors in explaining success in first year was high initial confidence in the skills of time management, self-reliance and teamwork. Similarly, Nelson and Nelson (2003) found that time management and assertive communication skills were significant predictors of academic success in the transition to higher education.

Linked with the skills of time management is the ability to have and maintain balance between academic and non-academic activities. This is discussed at length in Light (2001) who emphasises the importance of balance:

> *"A substantial commitment to one or two activities other than course-work – for as much as twenty hours per week – has little or no relationship to grades. But such commitments do have a strong relationship to overall satisfaction with college life. More involvement is strongly correlated with higher satisfaction."*

Drew (2001) conducted a study on the different factors that impact on students learning, and highlights the importance of participation on learning. Similarly, Kuh (2007) shows that students who talk about substantive matters with faculty and peers, particularly in the transition into higher education, are challenged to perform at high levels and typically get better grades, are more satisfied with college, and are more likely to persist. This result is supported in similar research by Bryson and Hand (2007) and Cruce et al. (2006). McInnis (2004) shows that first-year students in particular are challenged by the different teaching styles at higher education and in identifying standards and expectations, and managing workloads.

It has been reported in the research that students often struggle with the social aspects of integrating into College, in particular meeting new people and making friends (Light, 2001). An important study by Parker et al. (2004) highlights the link between emotional intelligence and academic success at higher education, and a follow up study (Parker et al., 2006) illustrates that

social and emotional competencies play an important role in student retention following transition to higher education. Similarly, Wilcox et al. (2005) highlight the important role of social integration and their results show that making compatible friends is essential to retention following the transition to higher education, and that students' living arrangements are central to this process.

Another aspect of the transition that has been reported as challenging includes participating in group work at higher education (Lopez-Real and Chan, 1999; Lejk et al., 1999; Goldfinch et al., 1999). Despite the challenges of group work, both Garvin et al. (1995) and Bourner et al. (2001) find that it is an appropriate learning technique for use with students in their first year at higher education.

There is a broad literature on the types of writing style/approach used by first year students and whether this approach changes throughout higher education although there are relatively few articles on how students deal with this change. Krause (2001) explores the challenges students encounter when faced with written assignments at higher education compared to second level and the impact these have on their academic integration at higher education. Smith (2004) examines student views and experiences of reading requirements and essay writing at higher education.

There is a large body of research which focusses on the extent to which students engage with the higher education institution. Engagement is considered to be a broad phenomenon encompassing both academic, non-academic and social aspects of life at higher education and is thought to have a significant impact on a student's performance and general satisfaction with higher education (Astin, 1993; Kuh, 1995; NSSE, 2005; Pace, 1979; Fredericks et al., 2004).

In Ireland, the Irish survey of student engagement (ISSE) aims to capture the general engagement of students at Irish higher education institutions with a view to providing information to assist in increasing engagement, although it does not specifically examine the transition to higher education (ISSE, 2015). It is generally considered that the small classroom environment and strong student-teacher relationships at second level allow students to feel more engaged with their second level institution than at higher education. As such large class sizes in higher education have been identified as a barrier to successful transition (O'Sullivan, 2011). Krause and Coates (2008) examine the role of student engagement in relation to transition to University and note that engagement with the institution is particularly challenging for first year students.

Ballinger (2003) highlights the importance of independent learning and critical assessment for success at higher education. In Ireland, the Leaving Certificate has been regularly criticised for promoting rote learning and inhibiting critical thinking which has often been cited as increasing the challenge of transitioning to higher education. In fact, recommended changes to the Leaving Certificate in 1986 specified that the curriculum and assessment for the Leaving Cert should be altered to instil "the capacity for self-directed learning and the ability to identify problems and to propose and implement solutions to them" (The Curriculum and Examinations Board, 1986).

Throughout the past three decades there have been wide-scale amendments to the Leaving Certificate curriculum and examination process. It is argued by Hyland (2011) that the problem of rote learning and lack of independent thought does not lie with the Leaving Cert syllabus itself, but rather with the assessment of that syllabus, namely a single 'high-stakes' examination.

As the final examination looms closer, students focus more on exam techniques and are reluctant to engage in learning which will not be assessed in the final examination. This leads to the oft cited problem of rote-learning, which some believe is rewarded in the current Leaving cert examination. It is suggested that this legacy of the Leaving Cert examination (rather than the syllabus) leads to transitional issues for students who may not be accustomed to utilising the generic skills required for critical thinking and self-directed learning which are required at higher education.

Concerns are not unique to Ireland, for example, in the UK, the A-level system has been claimed to create a "learn and forget" culture with students entering third-level lacking "a spirit of independent inquiry and confidence" (Bassett et al., 2009). In the US, 65% of college professors report that high school graduates are unprepared for college (Wagner, 2010).

The leaving cert is a high-stakes examination which has an effect on the teaching, learning and student experience of students in their senior years at secondary school. It may influence not only students' choices of which subjects to study but also how these subjects are taught and how students organise and conduct their own study (Hyland, 2011). Smyth et al. (2011) found that many Leaving Certificate students pick and choose elements within the syllabus based on the perceived predictability of the Leaving Cert examination. However, more recent research by Baird et al. (2014) finds that the leaving certificate examination is not 'predictable' and points towards a need to distinguish between perceived versus actual predictability, particularly in media reporting.

Cook and Leckey (1999) find that student study habits are formed in secondary school and persist to the end of the first semester of university life. Such a conclusion indicates that students are not bridging the gap between school and university quickly and effectively. Lowe and Cook (2003) expand on this research and show that for a sizable proportion of the student population (20-30%), there is a considerable transitional challenge into higher education and these students experience consistent academic and personal problems increasing the likelihood of underperformance and/or withdrawal.

The challenge of transition has been found to be exacerbated by a number of other factors, often occurring in parallel, namely: lack of accurate initial information on the course components, standards and requirements; poor course choices by the student/failure to get first choice courses; and unrealistic expectations regarding the amount of work and time involved in university study (McInnis et al., 2000). In fact, Ozga and Sukhnandan (1998) argue that the most prominent factor influencing transition is the lack of preparation and understanding of what is required of a successful higher education student. A finding supported by Collier and Morgan (2008).

Wingate (2007) discusses a framework to support students in their transition to higher education by helping them understand what is expected from them at university, by addressing their conceptions of learning and knowledge and by gradually developing their competence as independent learners as well as their competence in constructing knowledge in their discipline. Gale and Parker (2014) argue that the higher education sector should address the transition framework and adapt it to take account of student views. Other important works in the areas of transition include Marland (2003); Brinkworth et al. (2009), Yorke and Longden (2008), Krause et al. (2005) and Thomas (2012).

In terms of the Irish context, there is a very limited body of research relating to transitions to higher education. One of the first published articles relating to the Irish experience is by Byrne and Flood (2005) who examine the perceptions of first-year students as they commence their study of accounting at an Irish university. They find that while the majority of students feel well prepared for their studies and were confident in their ability to handle the content, 25% of students did not. Students also indicated low expectations of the work commitment required of them and the conclusions recommend that educators communicate these expectations more clearly from the outset.

Another seminal paper in the Irish context is by Moore (2010) which examines the experiences of first year Geography students at an Irish University. The article finds that the main barrier to student transition was the lack of social interaction between students which was exacerbated in the context of geography (in light of increased student numbers) due to an inability to do successful fieldwork. The authors also note that first-year students in large classes can very quickly feel disconnected and isolated, leading to disengagement and lack of success.

Sheridan (2012) examines what can be learnt about the transition to higher education in Ireland from the reflective journals of students in their first semester. The results find that most students manage the transition effectively although many reported challenges with group work in higher education. The findings also indicated that institutions do not always listen effectively and react appropriately to student views. McSweeney (2014) reports on the difficulties experienced by 15 social care practitioners in their transition to higher education in Ireland. The results indicated that students felt a sense of disengagement from the institution and were reluctant to approach members of staff for assistance. Other identified barriers included a lack of clarity and perceived relevance in learning goals/instruction and a lack of awareness of expectations.

Most recently, Gibney et al. (2013) report on first year students' recollections of their concerns, motivations, level of preparedness and perceived skills on entry to an Irish university. It also explores students' behaviour during their initial weeks at university with a view towards understanding the anxieties of new students, their views on their abilities and their confidence in managing the transition. The findings indicate that students appeared to have identified the behaviours required for success at higher education by week eight, although this knowledge did not necessarily translate into behaviour. The most frequently cited transitional challenge highlighted by the students was relating to the social aspects of college life. Another key aspect which was highlighted was relating to challenges associated with time allocation and management.

2 Data Collection and Methodology

This section provides an overview of the process of data collection and the methodologies used for analysis in this project. Two methods were used to collect data for the analysis in this project. The first was a survey of undergraduate students in each of the four institutions, and the second was a number of focus groups with students exploring some of the issues raised in further detail. Both methodologies are explained here and the results of both methods are combined in the subsequent sections to give a complete picture of the transitional challenges.

Prior to collecting any data, ethical approval was sought for this project from the ethics committee of the Faculty of Arts, Humanities and Social Sciences at Trinity College Dublin. The ethical considerations for this project arose as it involved the participation of students. There were three main elements to the ethical approval: firstly, ethical approval was required for the initial survey, secondly for the running of the focus groups and thirdly for the use and storage of the data obtained. Ethical approval was received for all elements of the project on 23rd January 2015.

2.1 Survey of students

Based on the literature in the area of transitions, a survey was designed to capture students' experiences of transitioning to higher education at each of the four institutions. The survey sought general information about a student's age, gender, course of study, commuting time and academic success to date at higher education. It also sought information on whether they attended an urban or rural secondary school, their CAO points and whether they had enrolled in any further education courses. The full survey is provided in Appendix A for information.

There was a good response rate to the survey with completed survey responses being:

- Trinity College Dublin (TCD): 1181 responses (7% of student population)
- University of Limerick (UL): 108 responses (4% of first year population)
- Mary Immaculate College (MIC): 103 responses (12% of first year population)
- Limerick Institute of Technology (LIT): 188 responses (11% of first year population)

The reason the response numbers for TCD are higher than for the other institutions is that the survey was circulated to the entire undergraduate student body at TCD rather than just the first year cohort. Unfortunately, TCD does not have a dedicated email list for just the first year group, a fact which was not apparent to the researchers prior to circulation. However, a range of statistical tests were conducted on the sample and the inclusion of more advanced students does not appear to distort the results.

Table 2 presents the descriptive statistics from the survey responses.

Table 2: Data summary from survey responses

Independent Variables					
Continuous variables	**N**	**mean**	**std dev**	**min**	**max**
Age	1,579	20.93	4.896	18	70
CAO points	1,253	509.2	75.43	185	625
Binary variables	**N**	**% of sample**			
Male	566	36			
Entered straight from Leaving Cert (*LC)*	1336	85			
Attended urban Secondary School (*Urban)*	916	69			
Undertook Further Education (*Further Ed)*	167	11			
Living with Parents (*Parents)*	840	54			
Course of Study					
Medicine	80	5			
Nursing/Midwifery	69	4			
Law	80	5			
Engineering	191	12			
Arts/Humanities	427	27			
Business/Economics	192	12			
Computer Science	99	6			
Social Work	71	5			
General Science	364	23			
Health Science	126	8			
Creative Arts	71	5			
Average grades at higher education					
First (≥70%)	428	27			
II.1 (60 – 69%)	731	46			
II.2 (50 – 59%)	340	22			
Third (40 – 49%)	58	4			
Fail (≤39%)	15	1			
Commuting time					
0 - 15min	316	20			
15 - 30min	426	27			
30 - 45min	361	23			
45min - 1hour	289	18			
Over 1 hour	169	11			
Institution					
TCD	1181	75			
UL	108	7			
MIC	103	7			
LIT	188	12			

Following this background information, students were asked to rate a number of defined transitional challenges (based on the literature, such as time management, making friends, mathematics requirements etc.) on the following scale: "Not challenging at all", "Somewhat

challenging", "Very challenging", and "Not applicable". Students were also asked if they had any suggestions on how students could be better prepared for the transition to higher education. The responses to these transitional questions form the basis of the analysis for the survey component of the results.

Students were asked at the end of the survey if they wished to volunteer to participate in a number of focus groups. The background information provided in the survey was utilized to select a representative sample for the focus groups.

It is clear from Table 2 that there are some limitations in the sample used for this study. Firstly, only four institutions were chosen for this study. While these were selected to give a general representation of the sector, they do not capture the sector as a whole and in fact, may be over-representative of the university sector (in particular Trinity College Dublin) and of achievement nationally. For example, the average CAO points in the sample are 509 which reflects the achievement of a very small percentage (circa 10%) of achievement nationally. Similarly, 75% of the sample is from Trinity College Dublin (with average CAO points of 533). On a national basis, Trinity represents just 7.5% of the total population of full-time undergraduate students in Ireland. Given these limitations in the sample selection, the results and conclusions of this report should be read in the context of the chosen case-study and generalisations beyond this specific cohort should be conducted with caution.

2.2 Focus groups

There were a total of 675 students who volunteered for focus group participation at the end of the survey, broken down as follows: TCD, 484; UL, 49; MIC 46; LIT 96. Ten focus groups were run in total, 1 pilot group at TCD followed by 3 groups at TCD, and 2 at each of the other three institutions.

Focus group participants were selected from the volunteers based on the following criteria.

- The typical age for first year students is 18 – 20 years of age, however, at least one participant who was above this age bracket was selected for each focus group. Students who were under 18 were excluded due to potential consent issues.
- As close to a 50:50 gender split as possible was used in each focus group.
- At least one student who entered higher education from a path other than directly from leaving certificate was included in each group.
- Students from across the range of academic success at higher education were chosen.
- Students with a range of CAO points were selected.
- Representation was made from both students who live at home and those living away from home as it is possible that a student's support networks may influence their experiences of transitioning to higher education.

Initially 12 students were selected for each focus group based on the criteria above, however, unfortunately it proved difficult to confirm participants for each group. Thus, an average of 20 students were invited for each focus group with actual focus group numbers averaging 5 students each and a total of 50 participants overall. Due to the difficulties in recruiting students for the focus groups, it was not always possible to strictly adhere to all of the selection criteria

above for each focus group, however, it can be seen from the participation information in Table 3 below, that the overall sample is broadly representative in terms of the criterion above.

Table 3: Summary of focus group participants

	# participants	Age range	Male/ Female	# further education	CAO points	# living with parents
TCD pilot	4	18 - 19	2/2	0	470 - 560	2
TCD 1	7	18 - 45	5/2	1	430 - 625	3
TCD 2	6	18 - 42	3/3	1	435 - 625	5
TCD 3	3	18	1/2	0	475 - 615	1
UL 1	5	18 - 25	3/2	0	350 - 590	2
UL 2	7	19 - 36	3/4	1	415 - 500	4
MIC 1	4	18 - 55	1/3	2	365 - 455	0
MIC 2	4	18 - 41	3/1	1	470 - 525	3
LIT 1	7	18 - 54	4/3	5	290 - 360	2
LIT 2	3	20 - 28	1/2	2	-	1

The pilot group was used to determine the most appropriate format for the focus groups and to ascertain the optimal facilitation style. Based on the experience in the pilot group, a focus group structure was developed and utilised in each of the subsequent groups (this structure is described in the next section). Each focus group lasted for approximately 90 minutes.

It should be noted that the sample for the focus groups is limited in that it represents just 50 students from across the four institutions. The students were asked to volunteer for these focus groups and as such there may be an element of self-selection bias and, despite the implementation of the selection criteria discussed above, these students may not necessarily be representative of the student body in these four institutions, let alone the overall student population. In addition, the focus groups represented a self-reporting by the students on their experiences and are reported without reference to institutional practices and approaches to support transition. As such, the results and conclusions from the focus groups should be interpreted in the context of a limited case study of the chosen four institutions.

2.2.1 Focus group structure

This section describes the running order and questions for each of the focus groups (after the pilot).

General Introductions:

- Participants were asked to read the focus group information sheet and sign the consent forms (required as part of the ethical approval process)
- Introduction of focus group leader, research assistant and provision of some background to the research project
- Provision of a clear and simple introduction on what is meant by 'transition' with a short anecdote

Participant Introductions

1. The participants were asked to introduce themselves one by one by providing the following information: name, course of study, where they are from, if they did any courses prior to starting higher education, and a short anecdote about what they found challenging about transitioning to higher education.

2. Once introductions were completed each participant was asked to identify two to three key challenges they experienced about the transition to higher education. The focus group leader made a note of these in a list for all to see, for example on a blackboard/flipchart.

3. Once this list had been generated, the focus group leader went through each item on the list and asked the group the following questions for each item:

    a. How could the issue be addressed, and then specifically what could be done at second level / further education to address it?

    b. Did any of their secondary schools/further education courses do anything that helped prepare them for this challenge?

4. Each student was then asked to identify two or three skills/attributes that they believed were necessary to be successful at college. The focus group leader then asked each of these follow up questions:

    a. Is this skill needed and used at secondary school/further education?

    b. If not, why not?

    c. What could be done to introduce it at second level/further education?

5. Students were then asked if there was anything further they would like to add to the discussions.

The focus groups lasted approximately 90 minutes each (although those groups with fewer participants were slightly shorter). All discussions were recorded via audio recorder and were subsequently transcribed by the research assistant for analysis. These transcriptions were then coded in the software package *NVivo* using themes identified in the literature and based on frequency of reference in the transcripts.

2.3 Analysis methodology

This project aims to review of the ways in which students are best prepared to participate successfully in higher education and to make the transition from second and/or further education to a higher education learning context. It aims to examine to what extent early higher education students have been equipped with the skills, competencies and orientations they need to succeed in Irish Higher Education and analyses students' views on the differences in teaching and learning between the two levels and on how well their second level experience prepared them for effective engagement with higher education. This section provides a brief overview of the research questions and methods used in examining the data and Section 3 and Appendix B discuss these methods in greater detail.

The first research question analyses the students stated experiences of transition. The data for this question is from both the survey responses and the focus groups and contains quantitative and qualitative data. Summary statistics for the quantitative results are presented and the qualitative responses are grouped into themes based on frequency of response and established themes in the literature.

The second research question examines the role of external factors in explaining a student's experience of the transition using quantitative data. It attempts to model the responses a student gave to the questions on transition based on their age, gender, prior academic performance, secondary school type and commuting distance. The analysis is conducted using a simple ordinary least squares regression model and estimates the importance of each of the explanatory variables in explaining the transitional challenge.

The third research question explores if a student's experience of the transition has an impact on their academic performance at higher education. This is analysed by estimating their reported grades using their responses to the questions on transition as explanatory variables. In other words, the probability of a student receiving higher average grades at higher education is estimated based on their experience of the transition. The variable for grades is a discrete and ordered variable thus this model is estimated using an ordered logit model and odds ratios are presented and discussed.

The fourth research question explores student responses to the question on how long it takes to overcome the challenges associated with transition. It also estimates which of the aspects of the transition are likely to last the longest. This is analysed using an ordered logit model.

The fifth research question explores the students' answers in the focus group to the question on the skills required for higher education. This data was purely qualitative in nature and summary statistics are presented and discussed.

The sixth research question examines the students' suggestions on what more could be done to facilitate the transition and what existing measures are particularly beneficial. This data is qualitative in nature and the analysis provides some summary statistics followed by an in-depth discussion of the comments made by students in both the survey and focus groups.

The results section which follows provides numerous direct quotations from students to support the results. In many of these quotes the lead researcher has edited the quote slightly to omit vocalisations such as "ums", "ahs", and other verbal ticks, and occasionally inserts a word or two in square parentheses, [ ], to provide the context for the quotation.

3 Results and Analysis

This section of the report provides the analysis, discussions and recommendations arising from the data obtained in both the survey and the focus groups. In order to avoid repetition, in many cases the results of both the survey and focus group will be presented together.

3.1 What is the most challenging thing about transition?

The survey contained the following question with the answer option for each sub-question being "Not challenging at all", "Somewhat challenging", "Very challenging", "Not applicable". Variable names for analysis are provided in parenthesis. Responses listed as 'not applicable' are omitted in the analysis. Figure 1 indicates a graphical summary of the responses to this question and Table 4 presents the underlying data.

Did you find any of the following a challenge when you started at higher education?

- Managing your time and completing assignments on time (*Time)*
- Note-taking in lectures/classes (*Notetaking)*
- Large classes (*Largeclass)*
- Participating in lectures/classes (*Participating)*
- Group work (*Groupwork)*
- Written assignments (*Writing*)
- Mathematics requirements (*Maths*)
- Being able to critically assess materials provided (*CriticalAssess)*
- Researching topics myself (*Research*)
- Integrating socially and making new friends (*SocialFriends)*
- Engaging with college life outside of the classroom (EngageCollege)

Figure 1: Summary of responses to transitional question

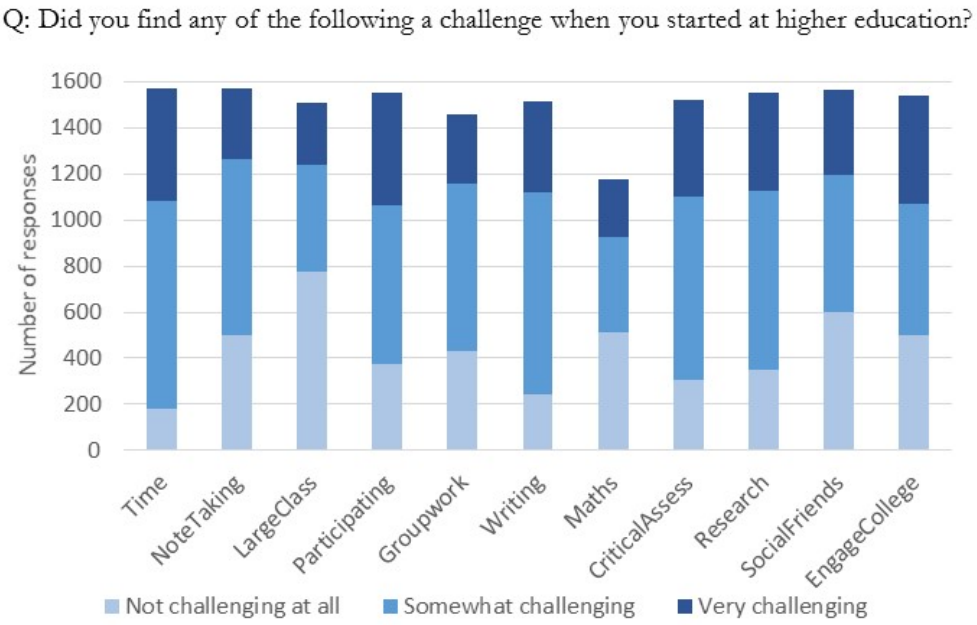


Table 4: Data summary in response to transitional challenges question

	(1) Not challenging at all	(2) Somewhat challenging	(3) Very challenging	(4) Not Applicable	# Responses
Time	11%	57%	31%	1%	1579
Notetaking	32%	48%	20%	0%	1577
Largeclass	49%	29%	17%	4%	1573
Participating	24%	43%	31%	2%	1576
Groupwork	27%	46%	19%	8%	1574
Writing	15%	56%	25%	4%	1572
Maths	32%	26%	16%	26%	1577
CriticalAssess	20%	50%	27%	3%	1573
Research	22%	49%	27%	2%	1579
SocialFriends	38%	38%	23%	1%	1579
CollegeLife	32%	36%	30%	3%	1579

It can be seen from Figure 1 (and the underlying data in Table 4) that the respondents to the survey clearly identify the presence of transitional challenges. For example, for the challenge "managing your time and submitting assignments on time, (*Time*)", 1390 respondents (representing 88% of responses to this question) reported that this challenge was either somewhat or very challenging. The strength of this result is supported in the international literature which illustrates that time management is among the most challenging aspects of transitioning to higher education (Nelson and Pierce, 1987; Goldfinch and Hughes, 2007; Nelson and Nelson, 2003)

The challenges of written assignments (*Writing),* critical assessment (*CriticalAssess)* and conducting independent research (*Research)* also show high levels of challenge (with 81%, 77% and 76% reporting them as either 'somewhat' or 'very' challenging). The challenge associated with 'maths requirements (*Maths)*' gathered the most 'not-applicable' responses, however, for those who did have a maths component to their course, 68% of these found the Mathematics requirement either somewhat or very challenging. The transition to large classes was reported as being 'not challenging' by 52% of the respondents, representing the highest response rate in this category across all the challenges. These results are also consistent with the literature (for example Krause (2001); Smith (2004)).

The survey also asked students if there were any transitional challenges they faced other than those discussed in relation to Figure 1 previously. There was significant repetition and emphasis of those factors previously discussed however, a number of other transitional challenges were also identified. There were over 750 responses to this qualitative question which were coded in the software package *NVivo* under 41 different nodes. These nodes were then collected into six general themes and are listed in order of most referenced as: increased personal responsibility; social & personal challenges; non-academic & logistical challenges; academic challenges; larger institution; and communication & expectations challenges.

Table 5: Other transitional challenges as identified in the survey responses

Themes	# responses
1. Increased personal responsibility	
More Motivation, Self-directed learning	120
Managing time, no routine	76
Academic requirements less defined	66
Freedom, Independence, responsibility	58
Living independently	27
2. Social, personal challenges	
Balancing social life and college work	76
Moving away from home, homesickness	73
Socialising, meeting new people	72
Mature student social issues	20
Family Commitments	19
Lack of diversity of backgrounds on courses	14
Prevalence of alcohol, drugs	6
Family not understanding demands of 3rd level	2
3. Non-academic, logistical challenges	
Financial issues	86
Commute, impact on engagement with College	57
Timetable issues, few lectures, long days	52
Lack of things to do between lectures	18
Orientation - Physical	16
4. Academic challenges	
New writing styles, learning styles	35
Bigger workload	33
Referencing	24
Subject gap from leaving cert	22
Lack of computer experience, blackboard, moodle etc	17
Lack of regular feedback	11
Critical thinking	9
Making presentations	9
Communicating in a different language	6
Group work	4
New terminology	2
5. Large classes and institution	
Less engagement	36
Remote from lecturers, less personal attention	34
Large courses	27
Isolation, anonymity	24
Nervous, fearful, low confidence	10
6. Communication, expectations	
Poor info communication at 3rd level, administrative issues	49
3rd level assignments, new grading scheme	32
Lack of regular feedback	11
Lack of course information at 2nd level	9

No longer top of class	7
Course not as expected	3
Lack of direction on subject choice at 3rd level	2

For example, the following is a response from a student:

> *"The relationship with a lecturer is much different to a relationship with a teacher in second level. It's harder to ask questions for clarification when you find something difficult and to do so and interact with them during the lectures is especially hard. I also found the change from an environment where you are told what to study and your progress checked upon regularly with homework or assignments was almost completely absent and it was difficult to motivate myself at the beginning."*

This statement was coded under the following nodes: "remote from lecturers, less personal attention", "academic requirements less well defined", and "more motivation, self-directed learning"

It is interesting to note that the transition to having increased responsibility, social/personal issues and non-academic issues are more prevalent in the students' responses than academic challenges. However, it should be noted that there is may be some overlap between responses with some ambiguity in interpreting a student's response. For example, some students responded to this question with the answer "*More responsibility"*, however it is unclear whether they meant more responsibility in terms of their academic studies, in terms of finding information for themselves or in relation to living independently, or a combination of these. Thus, ambiguous responses such as this one were categorised under the node "Freedom, independence, responsibility". Thus, caution should be exercised in relation to putting too much weight on the ordering of the responses in Table 5 as the different nodes are unlikely to be completely independent.

Students in the focus groups were also asked to identify the issues they found most challenging about the transition. Responses to this question were coded using the same general themes and nodes as those identified in the qualitative survey responses for ease of comparison.

Table 6: Focus groups identification of transitional challenges, coding nodes

Themes	# responses
1. Increased personal responsibility	
Managing Time	44
More Responsibility	44
Self-Directed Learning	35
More Motivation Required	33
Freedom	32
2. Social, personal challenges	
Socialising, meeting new people	92
Moving Away from Home, Homesick	34
Mature Student Issues	23
Diversity on Courses	21
Family Commitments	11

3. Academic challenges	
New Writing Styles, Learning Styles	62
Academic Requirements Less Defined	39
LC Subject Gap	27
Bigger Workload	24
Group work	11
Critical Thinking	8
New Terminology	7
4. Communication, expectations	
Lack of info at 3rd level, communication	52
Lack of Course Information at 2nd Level	36
3rd Level Assignments	34
Subject Choice at 3rd Level	26
Lack of Regular Feedback	6
5. Large classes and institution	
Less Engagement	68
Isolation	18
Orientation - Physical	16
Large Courses	16
Lack of Confidence	13
Nervous, Fearful	13
6. Non-academic, logistical challenges	
Financial Issues	55
Timetable Issues, Long Days	35
Commute	31

For example, the following is a statement from a focus group participant

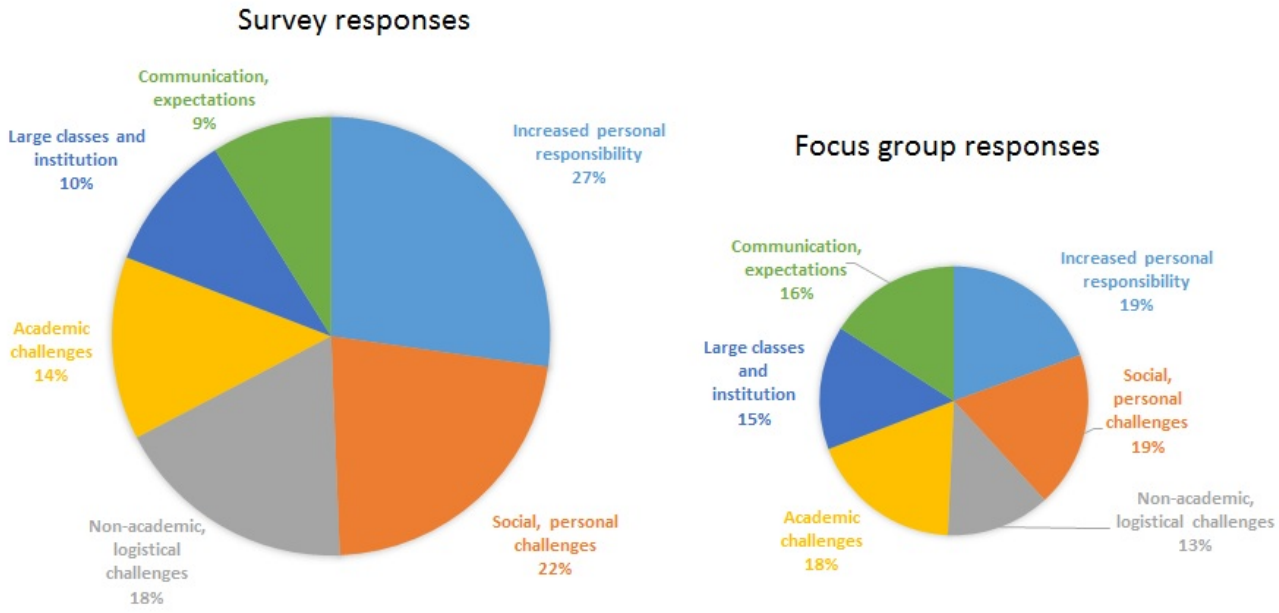
> *"And probably the thing that I'd put as most challenging for the transition was mainly the work ethic, like because you know yourself in secondary school, you're sat down and you're told this is what you have to do, this is probably how you're going to do it, all that stuff. And then you come to university and you're told this is the lecture and you just sit there and you have to figure it all out yourself, so that's kind of something that I'm still trying to get to grips with as well as organising myself to kind of do the work in an orderly fashion so that I'm not being kind of left there with twenty books to read on the last day."*

This statement was coded under the following nodes: "Academic requirements less defined"; "Managing time"; "Self-directed learning". .

It is very interesting to note the consistency of responses across both the survey and the focus group respondents; both cohorts identify the theme of 'increased personal responsibility' followed by 'social and personal challenges' as being the two most challenging elements of the transition from second to higher education. These results again echo the findings in the literature which emphasise time management skills and social challenges amongst the most challenging aspects of transition (for example Nelson and Pierce (1987); Light (2001); Parker et

al. (2004); Parker et al. (2006)). The themes for the transitional challenges in both the survey and focus group responses are represented graphically in Figure 2 by frequency of reference.

Figure 2: Themes of transitional challenges



3.2 What factors exacerbate the overall transitional challenge?

This section examines the relationship between students' responses to questions on their age, gender, school, CAO points etc and their experience of transitioning to higher education. This analysis involved statistical regression techniques which are described in detail in Appendix B. This section summarises the results from these statistical models but readers are encouraged to consult Appendix B to gain further insights into the methods and analysis employed.

The analysis in Appendix B shows that *Age* has a positive and significant impact on the transition. For example, comparing an 18 year old and a 28 year old, the latter is likely to find the transition almost half a standard deviation (0.46) more challenging than the former. In other words, the older the student, the harder they find the transition into higher education.

This result is backed up by anecdotal evidence from the survey and focus groups with a large number of older students reporting difficulties with the transition. For example, some experiences for these students include:

> *"I know that with a number of us we might appear to be confident because we are older but actually I don't think so, a lot of us really feel quite insecure about it because we haven't had the momentum of studying, we haven't come from the leaving cert, we haven't been in a system of study."*

> *"For me personally, I think for a lot of mature students our sets of responsibilities I suppose are different to the responsibilities that the younger students have."*

"It's financially very difficult returning to education as an adult. It's intimidating accessing supports, or even getting used to the campus when you're one of a very small minority of mature students."

"I think for the leaving cert students who are away from home it's more of an emotional thing, and for us it's more of a practical thing. Just you can't be everywhere at the one time and you are racing around trying to fit other things in and then you know at the back of your mind you've got two essays that need to be given in whenever. So you know there's a lot of pressure in that regard. So I find I'm either up very, very late at night or up very, very early in the morning trying to fit it in."

"I'm a mature obviously so I came in not from school through an Access course and the thing that I struggle with this year certainly is, my course is predominantly group work and I find that in every group work session they put a mature in between four or five 'immatures' as we call them so that they can learn from us and we can learn from them. But as a mature, I think you struggle in a different way to meet friends and find people like you. And then when you've done that [made friends] *then you're separated from them then in every class so the younger guys get to stay with at least people their own age and people that they're socialising with and the matures are constantly broken up. So I really struggle with that."*

"[There is a] *wide communication gap between the mature students and the younger ones"*

"It is quite difficult to meet other mature students"

It is found that males report less of challenge with transition. While this is a statistically significant result in the survey responses, it was not apparent in the focus groups or in the qualitative survey responses. It is unclear whether males genuinely experience less difficulties with transition, or if they are simply less likely to report difficulties with transition. The lower response rate for males, representing just 36% of the overall survey responses, suggests the latter.

A student's academic performance at secondary level (as measured by *CAOpoints*) does not appear to have any impact on the transition to third-level, a result which is consistent across all model specifications in Appendix B. This is a very interesting result and perhaps counter to common belief; academic performance at second level has no impact on a student's experience of transitioning to higher education. Students with strong prior academic success (as measured by high CAO points) struggle overall just as much as those with weak prior academic success (as measured by low CAO points).

The results also suggests that students who attended an urban rather than a rural secondary school find the transition to higher education less challenging. Anecdotal evidence from the focus groups and survey suggests that there may be additional social challenges for those students from rural areas moving to a large urban centre for higher education, however this result is not statistically significant.

"As I come from a rural background I found it hard to meet people with a similar background which was difficult at first"

"Coming from a rural background is a slight social disadvantage."

"For some, and I stress some, people coming up from the country a lot of the societies can be seen as being dominated by people from the 'posher' schools. This can be quite intimidating to young students

initially and may dissuade them from joining. The best way of describing it is this. Typically, one or two people from a rural school will enter Trinity while for the larger fee paying schools ten or more will enter. Integrating while being surrounded by friends and family is far easier than is the opposite case."

In terms of course of study there was only one discipline showing a statistically significant increase in transitional challenge and that was for Business and Economics courses (*BusEcon*). In other words, these students find the transition 0.178 standard deviations more difficult than students in other programmes. Additional statistical analysis (omitted for brevity), suggests that these students struggle in particular with large class sizes and the mathematics components of these courses, with the odds of business and economics students finding mathematics challenging over twice as high than for any other discipline.

The results suggest that short commuting distances significantly reduce the transitional challenge. Those with a commute of 15 minutes significantly less likely to have transitional issues compared to a student with a commute of over 1 hour. As commuting times increase, so too does the transitional challenge. It is likely that commuting times impact on a student's ability to engage with College, in particular to participate in extracurricular events and social activities in the evenings. Also, a longer commute is likely to be more tiring and may have a knock-on impact on academic aspects also. The impact of commuting time on transition was a recurring theme in the focus groups, for example:

"Well I haven't joined many clubs and societies, I'd love to join them but I don't because they usually start after 6pm when college is over and that's way too late for me because by the time I get home it could be nearly 10pm, do you know. So it's too late for me so I haven't."

"I commute to college and I find making friends and connections is much harder. For example, when everyone was typically heading out for a Halls Night out or a drink in the Pav, I'd always be heading to get my bus and I would miss out on the socialising."

"As a commuter I find that I lose about 3hours a day by travelling. This is very tiring and has badly affected my social life and rehearsal time and means I cannot reliably participate in any society"

"Commuting was also difficult. There was a strong emphasis on drinking and "going out" during Freshers' Week, all societies held their events in the evening time, and it seemed that integration was impossible for a non-drinker who lived far away from the college."

"As a student who commutes an hour away, the timetable was challenging, i.e two classes in the morning and one in the evening - I have nowhere to go for four hours usually, and I can't afford to buy lunch every day. I usually would end up missing classes far apart and going home."

"Commuting is particularly challenging due to early starts and long days. Killing time between lectures when you have a two or three hour break and have completed all your work. I do not live in Limerick nor do I live in student accommodation so I spend these breaks on campus which is difficult as entertainment is limited."

Living with parents does not have a statistically significant impact on students' experience of transition. The decision to live with ones parents while at higher education is related to where

parents live relative to the higher education campus, but the role of living with parents, controlling for commuting distance, is small and insignificant.

The results indicate that students attending Trinity College Dublin, University of Limerick and Mary Immaculate College report greater difficulty with the transition to higher education compared to students at Limerick IT. As discussed above, this is not due to the prior academic achievement of students across these institutions (as measured by their CAO points). It is possible that it may be due to the supports and awareness of supports available at LIT, or it could be due to the fact that the learning environment at LIT is more closely related to the learning environment at secondary school/further education and as such is less of a transition for students. However, given the limitations in sample selection for this project, further study is recommended to extend the analysis into the role of institution type in the transitional experience.

The role of attending a further education course prior to commencing at higher education was also investigated for the subgroup of students who did not transition directly from secondary school to higher education. The analysis found that attending further education reduces the average transition score but the results are just outside the bounds of statistical significance. Nevertheless, the qualitative results from the survey and focus groups suggest that attending a further education course is particularly beneficial in assisting in the transition to higher education.

> "[Did you have any other difficulties?] *No, I think because I had done a PLC course before this, I was more aware of what it was going to be like."*
>
> *"Transition was easy in some ways because I did a FETAC level 5 course for 2 years before I came here, and in a lot of ways that was like a preparatory school for here because you had to do 22 hours a week, you had different modules and they give you all the skills you needed to come to college with."*
>
> *"When I did the FETAC level 5, we had career guidance people there and they were excellent."*
>
> *"I did the FETAC level 5 like preparatory school. I got computer skills, I got research skills, they taught me about Harvard style of stuff, I just felt, you know now I can do this. They gave me a lot of confidence too."*

3.3 Does the transition impact on academic performance?

This section explores if a student's experience of the transition impacts on their academic performance at higher education. For example, what is a student's probability of getting a higher grade given their experience of the transition? The survey asked students to identify their average grades with the answer options being: first class honours (≥70%); II.1 (60 – 69%); II.2 (50 – 59%); III (40 – 49%); or averaging fail grades (≤39%). The students' responses to the transitional questions are then used to predict their answer to this question on average grades to determine if the transition impacted on their performance. The statistical regression model and results tables are presented in Section B.2 in Appendix B.

Students were also asked the following question: "How long did it take you to overcome those aspects of starting higher education which you identified as being challenging?". The answer

options were "A few days", "A few weeks", "A few months" and "I still find some/all of them challenging". Figure 3 illustrates the profile of responses to this question.

Figure 3: How long does the transition challenge last?

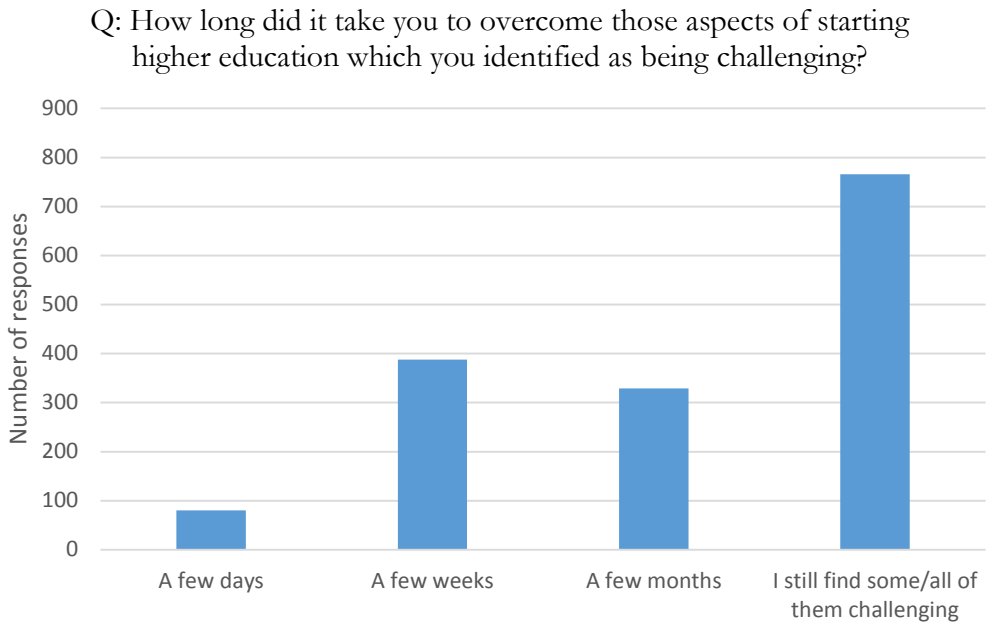


Figure 3 illustrates that the challenges associated with the transition to higher education are not necessarily short lived in duration with 50% of the respondents stating that they still find aspects of the transition challenging (survey was conducted in February, five months into the academic year). A second element of the research question in this section explores if the duration of the transitional challenge impacts on a student's academic performance. The statistical regression model and results tables for this question are presented in Section B2 in Appendix B and are discussed in summary here.

The results (as shown in Table 14 in Appendix B) indicate that the more difficult a student reports finding the transitional challenge, the lower their odds of getting a higher grade. In other words, the more a student struggles with the transition, the less likely they are to get higher academic grades. A student who has a 'very challenging' overall experience of the transition is 54% less likely to get a first class honours grade than a student who found the transition overall to be 'somewhat challenging. Thus, transition has a significant and negative impact on academic performance.

It was also found that the length of time it takes for a student to overcome transitional challenges has a statistically significant impact on their academic performance. The longer it takes to overcome the transitional challenge, the less likely the student is to get a higher grade. The odds of getting a first class honours are 23% lower for a student who takes months rather than weeks to overcome the challenges of transition.

The results presented in Table 14 in Appendix B also show which aspects of the transition have the greatest impact on academic performance at higher education. Here we see that time management, has the most significant impact on higher education grades. Students who find time management more challenging are significantly less likely to get higher grades. Specifically,

a student who finds time management 'very challenging' is 41% less likely to average first class honours grades than a student who finds time management 'somewhat challenging'. This results is consistent with the general findings of Nelson and Nelson (2003).

Similarly, students who find participating in class, conducting independent research and experience with mathematics challenging are statistically significantly less likely to get higher grades, a finding consistent with Kuh (2007) and Ballinger (2003).

Surprisingly, students who report challenges with group work and engagement with college life are slightly more likely to get higher grades. It is possible that these students are highly academically focused who prefer to work independently, rather than in groups, and don't tend to engage in college activities, although further research is recommended to explore this result further as it seems inconsistent with intuition and some of the literature in the field (Goldfinch et al., 1999; Kuh, 1995).

The results in Table 14 in Appendix B indicate that higher CAO points result in higher grades at higher education, a result supported by the literature which shows prior academic performance is a significant determinant of success at higher education (Park and Kerr, 1990; D'Agostino and Bonner, 2009).

Using the students' responses to the question on how long it took to overcome the transitional challenge (as presented in Figure 3 above) it was also possible to determine which of the transitional challenges was likely to last the longest. It is found that time management is the challenge which takes the longest to overcome. This is followed in order by making friends, group work, engaging in college life and participating in lectures and classes.

3.4 What skills are required to cope well with the transition?

The students in the focus groups were asked to identify the skills and competencies needed to succeed at higher education. The responses to this question are illustrated in Table 7.

Table 7: Skills required to succeed at higher education

Nodes	# Refs	Nodes	# Refs
Time Management	22	Responsible	5
Organisation Skills	20	Orientation Skills	5
Self-Discipline	16	Social Skills	5
Confidence	13	Ambitious	5
Motivation	13	Work Ethic	4
Note Taking	9	Determined	4
Communication	9	Study Skills	4
Hardworking	8	Enthusiasm	3
IT Skills	7	Group work	2
Research Skills	6	Critical Thinking	1
Adaptability	6		

For example, the following quotation was coded under 'Organisational skills' and also 'Note-taking':

"My note taking is terrible, I used foolscap the first day and I would write just the name of the subject at the top and then put them all in the one folder. And then after about a week you're going, you don't even know what subject it was from, when it was written, what order they went in, it took me ages to realise, I started numbering and dating the pages so I could actually arrange the notes so they were legible. Because otherwise they were just paper at home."

It can be seen from Table 7 and from the results in previous sections, that time management is continually referenced as being the biggest challenge and the most important skill for students transitioning to higher education. Anecdotal evidence suggests that students struggle with this aspect for two main reasons, firstly due to a greater workload at higher education and secondly due to having to take responsibility for their own work. Both of which are identified in the literature as being key aspects of the transitional challenge (McInnis, 2004; Ozga and Sukhnandan, 1998; Collier and Morgan, 2008; Ballinger, 2003). These two issues were also found by Moore-Cherry et al. (2015) to be a key factor in non-completion in Irish higher education institutions.

Greater workload:

"I felt like I had been misled, all through school, in particular during senior cycle, we were told that college would be 'easy' and we would not have to do nearly as much work as we did for the leaving certificate. That is of course not the case, study and time in the library is required and I was not prepared for that at all."

"Very high workload that makes it difficult to get into a routine with work"

"Did not expect as much work involved"

"The large volume of work"

"Frankly, the sheer amount of activities, course work, societies and gym classes completely overwhelmed me"

Responsibility for own work:

"I found having to work on my own terms instead of having a teacher to support you and make sure you do the work was (and still is) very challenging."

"Yeah in secondary like everyone, the teacher, the principal are always on your back to go to classes and you come here then and it's all gone straight away."

"At the start I wasn't prepared for the learning environment of college. Very often I would start an assignment but by the time I next got back to it to finish it would be too late. I didn't get into a routine, and quickly fell behind on the material. I missed deadlines and when it came to exams, I just didn't know what was going on. I got off to a slow start and couldn't find my feet."

"It really took a long time to learn how to operate at a much much higher pace and write super fast. In school however, I always felt as if things were moving way too slow and I was bored for years monotonously going through boring easy stuff. I wasn't challenged in school so I wasn't prepared for the challenge of college. In college you take on more responsibility for your own learning than imaginable in school. It is 100% about sitting down and doing the work instead of going on

all these over-hyped college nights out and missing 9a.m. lectures."

"The overall sense of the workload being completely your own responsibility, motivating myself to do the work and my time management [were challenging] *compared to secondary where homework was a regular everyday thing which was part of the routine. When the work isn't as regular and it's completely up to yourself to do it with no one checking you, it's hard to motivate and focus myself to do it, even though the subject matter itself is enjoyable and interesting."*

"Time management regarding work was probably the biggest challenge for me. I had very little continuous assessment, so on the rare occasion where assignments did come up, it was very stressful for me."

"The burden is on the student to know where everything is and have work ready without being reminded or prompted."

Students were also asked for their suggestions on what more could be done to foster these skills in secondary and further education. Their suggestions are discussed in detail in Section 3.5 below.

3.5 What was or would be helpful in assisting the transition?

Survey respondents were asked if they had any suggestions on how students could be better prepared for the transition to higher education. There were 714 responses to this question which are coded according to the nodes in Table 8. These responses generally fell into one of four different themes: higher education supports; academic skills preparation at secondary school; managing expectations and engagement; and general skills preparation.

Table 8: Suggestions to assist with transition, qualitative survey responses

Themes	# references
1. Higher education supports	
Intro to Note Taking, Time Management, Study skills, Essays, Grading etc	137
More use of Higher education Student Mentors	42
More/better Course Specific Orientation	40
Course Orientation by Existing Student	12
More general orientation (e.g. campus tours, life at college)	27
Social Interaction with Future Class	21
Higher education Staff Mentor	11
Better accommodation support for 1st years	9
Social Support for Mature students	5
2. Academic skills preparation at Secondary School	
Less Rote learning and more critical thinking at Secondary School	100
More research at Secondary School	64
Take more responsibility at Secondary School	30
Introduce Referencing at Secondary School	16
More Group Work at Secondary School	12
Presenting and public speaking skills and experience at Secondary School	11
More Computers skills at Secondary School	9
More Continuous Assessment at Secondary School	9
Higher Maths Standard at Secondary School	5

More courses like History at Secondary School	3
3. Managing Expectations & Engagement	
More info on what course actually entails - reality very different to expectations	57
More info on what College life entails	56
Provide this information at secondary school by 3rd level students	23
Emphasise how important Extra Curricular engagement is at higher education	43
College is hard work (false illusion that Leaving Cert is hardest exam to be faced)	39
More recognition from higher education that transition is difficult	26
Encourage more discussion on loneliness	3
4. General Skills preparation	
Have a college experience programme like the 'work experience' in transition year	38
Preparation for living on one's own in secondary school	20
Do a PLC, FETAC etc course	12
Introduce lectures at 2nd Level	6
More alcohol and sex information at secondary school	5
Learn how to take notes at secondary school	5
Take a year out	5
Time Management skills to be taught at SS	4

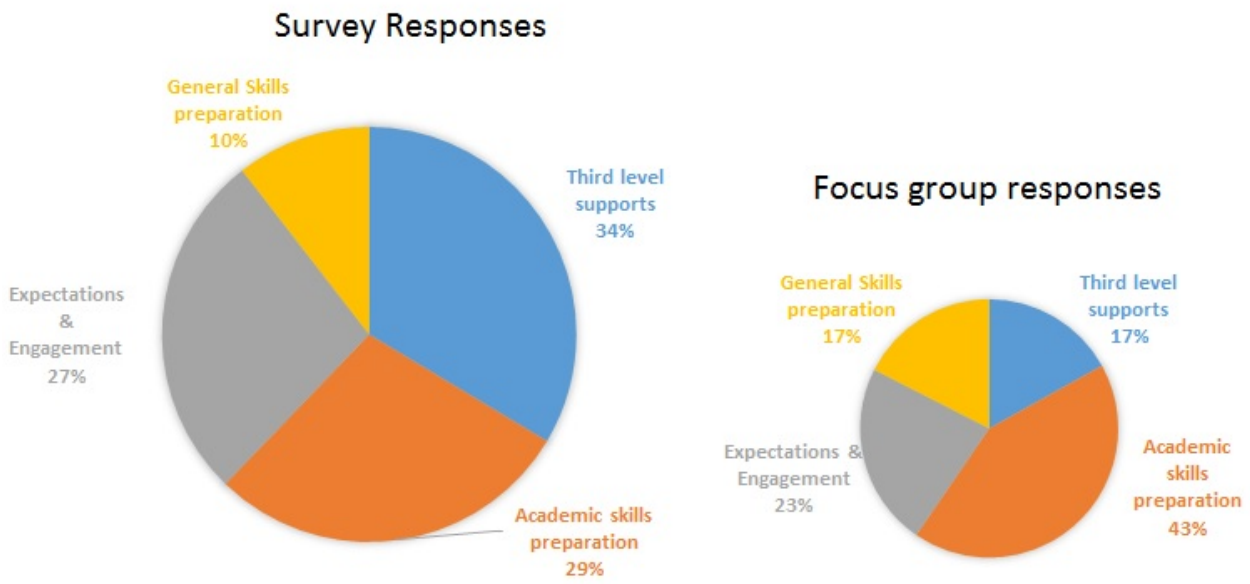
The focus group respondents also discussed this issue in significant detail and their responses are coded according to the nodes illustrated in Table 9.

Table 9: Focus groups suggestions for assisting with transition, coding nodes

Themes	# Refs		# Refs
1. Academic skills preparation at School		**3. General skills preparation**	
Less Rote Learning for Leaving Cert	16	Experience 3rd Level Beforehand	17
Take More Responsibility at 2nd Level	12	Do Transition Year at 2nd Level	11
More Group work at 2nd Level	9	Time Management skills at 2nd Level	3
Learn Referencing at 2nd Level	9	Learn Note taking at 2nd Level	1
Research Skills at 2nd Level	8		
More Continuous Assessment at 2nd Level	8	**4. Higher education supports**	
More Critical Thinking at 2nd Level	7	Mentor/Buddy system	15
Presentation Skills at 2nd Level	7	Better Communication by 3rd level	11
History Curriculum for LC is good preparation	2	Smaller classes at 3rd level	5
2. Managing expectations and engagement			
More Info on reality of 3rd Level Life	25		
Better Career Guidance	9		
Have Talk By 3rd Level Student at 2nd Level	8		

Figure 4 graphically illustrates the themes identified in the suggestions from the survey responses and focus groups. The following sections discuss these suggestions in greater detail.

Figure 4: Suggestions for assisting with the transition by theme



3.5.1 Higher Education Supports

As evident from Table 8 and Table 9, there were a large number of survey respondents who identified that they would like introductory classes at higher education on how to take notes, how to cite and reference properly, skills for time management and organisation and an introduction to how academic assignments are graded. While all the institutions surveyed actually provide these services, it was apparent from the qualitative responses that students aren't aware of these, did not attend them, or did not find them particularly useful. Some illustrative suggestions are provided below:

> *"We have never been taught how to write a college standard essay, which has left many of us struggling to keep up. The Leaving Cert does not prepare students to think critically and originally, so many are left confused and afraid when facing a college essay or exam. We should have workshops on how to adjust to the college way of thinking and writing."*

> *"Be shown how to write academic essays. There are totally unlike any leaving certificate-style essay and as a result note-taking, research and referencing need to be developed very early in the degree (perhaps in the first few weeks of first year as essays would be due by Christmas in many courses)."*

> *"Maybe bringing in a compulsory talk on time management, I know talks similar to this are hosted by the library but often they can be easily forgotten about."*

> *"Introductory modules in which students are guided as to how source required reading and how to critically assess it, essay guidelines, guides as to what work should be done weekly, group projects etc. None of these are covered in secondary school and students are thrown into them."*

> *"On Freshers week there should be mandatory introductory classes on how to use the library, how to write a good essay, how to reference"*

> *"At beginning of college have a few compulsory classes on how to reference, write an essay or lab*

report and how to present it (hard copy), balance college and social life, how to do a presentation. "

The responses in the focus groups and surveys illustrate a dilemma facing higher education institutions; students state the resources that they need, such as introductory classes etc., and the higher education institutions try to put these supports in place, yet once in place, there is low-attendance by students. This issue was raised with the students in the focus groups and participants were asked why they believe attendance is low at introductory classes, some illustrative responses are:

"If there were credits available you'd get a lot more students"

"I suppose there hasn't been too many times in secondary school where you had the choice about doing something that was good for you, you know. It was something that was good for you but you had to do it anyway."

"There's a lot of right decisions you have to make in semester one. Like there's a lot of things you could be doing that could help you but you mightn't do it."

"In secondary school you had to go do the thing, and if it was good for you that's brownie points but here there are loads of things that are really good for you but students just kind of goes over their heads."

"If you say you have something free as well. Free things work better. Yeah free food, free tea and coffee. Free drinks. Free goodie bags, free something, like I'd go to it then."

As can be seen in the responses above, despite requesting them, many first year students are reluctant to take on the responsibility for attending introductory modules and instead want to be incentivised to attend. However, to provide incentives for attendance would be nurturing the habits they have developed in secondary level rather than requiring them to take responsibility for themselves. Rather than providing incentives for attendance, there were a number of other suggestions which were made which could improve introductory sessions for first years. The most prominent of these was to make the introductory modules more course specific. The student responses indicated that the introductory sessions they attended were too generic and in many cases they felt they were not relevant for their own course of study.

"In the first few weeks or so - a mandatory (as honestly no one would attend optional) course should be given on how to work/study [for] *your particular degree - for example in law - how to read a case - this should be given by a current student in 3rd/4th year as this would provide real advice on what to actually do as opposed to advice from a lecturer which one already gets in lecture theatres. This would create a relaxed environment where one could ask questions and allow the student to be honest with the class about how much work to put in etc."*

"Study skills seminars that are course specific, the optional Freshers ones weren't very applicable."

"In my course we are lucky enough to have an extra class called study skills in order to teach us how to write college level essays and to improve our grammar etc which is so helpful and I know people in other courses struggled to adapt to writing academic essays because they were never taught how, so I feel every course should get this extra class."

"Improve the Fresher's week orientation programme to give students more information and

guidance on how College and their particular course will work."

"Organise course specific events in small groups of 10-15 every day during Freshers week."

The anecdotal evidence also suggests that perhaps these introductory classes happen too early, before students need to use these skills. The requirements to have skills like referencing, essay writing, computer skills etc. only become relevant when the students actually have to use them. Students aren't interested in learning these skills until they actually have to put them into practice. Thus, there may be justification in running these introductory courses a few weeks/months into first year when students begin to have to submit assignments rather than in the first week. In addition, a number of students who entered college after Freshers' week, for example, following a re-check of leaving cert results, reported receiving no supports. An introductory course which was run, or re-run a few weeks into term is likely to be particularly helpful to these students.

"Thinking back to the very first day, I was like, ah no, I know how to save a file, I would be really good at that. But then, when you're in week five or six and you're trying to do reports and stuff and you're trying to use Excel and you don't know how to make a graph on Excel -then you're in trouble."

"*I was a late entrant and had no support, whatsoever with starting classes. It was challenging to find my way around campus, to find out what I had missed."*

"Started late into the course and found it difficult to fit in."

The responses to the survey revealed that students really appreciate both the student mentoring schemes and course specific talks provided by other students. Again, while all the institutions provide these services to some extent, there were a lot of suggestions requesting an increase in the use of student mentoring and course specific orientation by students. Based on the responses from students, it is possible that attendance would be significantly higher at introductory talks and workshops if these were presented by students in more advanced year groups rather than by faculty and staff.

"I mean it's the simple things, they're the simplest questions because like they're the ones at the beginning that you don't want to ask an academic – how do I sign in to my email, how do I do this, how do I do that, where is the class, I don't know where [a particular room] *is, you know, these are the silly little questions you can ask somebody who knows what they're doing and second years to fourth years are perfect examples of those people who have been through it. I have actually made a few friends who are second years here just simply by sitting around having a cup of tea and it's the best way of finding out what to expect in first year and also what's going to happen in second year to us, you know, so it's a great way, if you can meet somebody in second year to find out that, twelve months ahead, where you should be."*

"Be put in contact with somebody doing their chosen course so they can ask them questions about it and college life in general. Some stories by older students about how they found settling in, covering a broad range of situations."

"I didn't understand why we had only one tour with the, with the S2S [Student to Student mentoring programme]*, which are the older students, and it would just last a couple of hours and we had our whole week to do nothing with, like there was no reason why we couldn't have met with them a few days in a row."*

"If they could maybe bring someone that's in that same course from third or fourth year - they might be more relative to us to be like listen, this is actually what's expected of you, this is how hard this is, this module is relative to all your other modules, this is what I'd recommend, the amount of time you spend on it, and pay attention to things."

"The students in the S2S are the people you're going to ask questions and stuff because you feel, you know, you don't feel as though they're talking down to you or anything – I mean it's, it's a wonderful service. Like it's such a pity that we don't have more interaction with them because I think it would help so much."

"I think the s2s initiative is brilliant at helping students transition"

"More S2S support."

"Get more publicity across for groups such as student mentors or tutors who will actively engage with younger students, to share experiences. Possibly put more funding into student mentors so that they can have a lower student:mentor ratio"

"Greater interaction with peer mentors in Student2Student programme - especially during Freshers Week when there is usually only one tour with the mentors."

While at first it may seem difficult to organise separate introduction sessions for the hundreds of courses across each higher education institutions, there is the potential to achieve this with minimal additional effort by staff and at limited cost. For example, in most courses, tutorials and laboratories don't commence until the second or third week of term. Thus, it may be feasible to use these timetabled slots in the first two weeks of term to provide course specific introductions to areas such as higher education requirements, academic and general skills as well as course specific campus orientations. These introductions could be provided by the teaching assistants or laboratory assistants for these courses, or perhaps even more beneficially by more advanced students within each course.

Orientation around campus was also identified as a challenge. While this is to be expected at the beginning while students get accustomed to their new surroundings, it was evident in the focus groups (which were held five months after students commenced at higher education) that orientation continued to pose a challenge to students.

"I got lost on the way here. Room numbers are like "what"?! "

"Orientation around college was a major issue at the beginning, poor maps, some missed classes because of poor/no orientation information given. It would be good if we were provided with a map and starter packs to ease the transition."

"My campus guide got lost [during campus orientation]. *He was a language student and didn't know any of the places in the Engineering building.*"

There were numerous suggestions for more and better campus tours, better maps and room guides. However, it is critical that students are made aware of these. For example, one of the institutions has initiated a phone app where students can enter the room number for their class and be directed to that exact room. However, none of the students in the focus groups were aware of this support. Communication of supports is thus an area which requires improvement

for the higher education institutions as it was evident that many students were simply unaware of the facilities and supports available to them. There were a number of suggestions that stated it would be helpful if a compact course specific information pack were sent to students as soon as they receive their CAO offers so they could read about the supports in advance and be aware of facilities such as orientation apps and peer-to-peer supports upon arrival on campus.

> *"More email/letter correspondence as I felt I didn't really know what to expect at the beginning and what Freshers' week entailed."*

> *"They should get a 'care package' from the college with all of the information, details about the course set up, tutors, mentors etc so they're more prepared before Freshers' week."*

> *"A list of published tips on making the transition on the college orientation page. Some stories by older students about how they found settling in, covering a broad range of situations. "*

In terms of assisting students with interacting socially, there were suggestions of improving communal spaces where students could spend time between lectures and also a number of suggestions of increasing the use of social media. It was suggested that courses should establish a Facebook page which incoming students can join as soon as they receive their CAO offers so they can make contact with others on their course before arriving on the first day.

> *"You know because there's no common room, you are sitting in what we call the departures lounge waiting before you go to class, and it's just a huge big open area so you might meet someone, you might not."*

> *"I think there's, like a lot of people are coming from college and they're going to where they know nobody at all. I think there should be like an on line, kind of like Facebook group or something for people that are going into their course. Just so you can get to see people, so you might know a few faces before you get there, instead of just walking in the door, like you'd see the group of people from the first time ever."*

> *"At class level we've always had like a Facebook page from first year on, just for the class that you're in and I found even that was great for communicating because sometimes it's almost easier to send someone a quick message that you might not approach directly from a class."*

> *"I know it sounds very American but maybe when people have accepted their courses, maybe around orientation time, if they did like not a year book as such but if you had a page on your computer at home or two pages where you could go into like a head and shoulders of all the people that's on your course and before you even get to the grounds of here, you'd say oh there's someone that I know, saw it on their page."*

As discussed previously in Section 3.2, mature students appear to find it particularly difficult to make friends and engage with their higher education institution. Some suggestions from mature students in particular are:

> *"There needs to be a better support system for matures in courses. I would have loved a few tutorials or facilitated group discussions with fellow matures in my year. It's very difficult to relate to teenagers in this context, the same support system that younger students have with and from each other isn't there when you are in lectures with very few other mature students."*

"It is quite difficult to meet other mature students … A meeting space for mature students might be a way to overcome this"

As seen in Section 3.2, financial challenges were reported as being a significant challenge in the transition. There were a number of suggestions which were raised in the survey and focus groups which are relevant for the higher education institutions and may help students with the financial burden of supporting themselves during College.

"Things such as the fact that we don't even have a cafeteria with kettle, microwave, toaster to facilitate people bringing food that's familiar to them in means both huge expense and huge adjustments to be made."

"Is there anything like a money advice bureau or service [which] offers people who are in financial difficulty budgeting [advice]*? Even if there was like maybe an App that like the Student's Union could like give out so you'd have it on your phone so you could literally put in your budget for the week is like twenty or thirty euro and then it'll show you how to allocate it to different things and then like some kind of pop up reminder or something. … promoting an App like this or getting them maybe tailored for student groups might be useful as well."*

"When I came, like I consider myself very lucky because I'm part of the access, like HEAR, scheme and basically before orientation day started we had a three day orientation before orientation. And it's basically like a three day course, you lived on campus, they provided accommodation for three days and then during those three days they talked to you about college and one of the things they do talk about to you about was managing your money and they give you scenarios where say you have €50 a week, you have to divide that amount evenly to say how much and where you should spend the money and they also have different classes and it helped me a lot because during those three days I made new friends and in general it just taught me more. It gave me like just a quick start and a quick taste."

"You said is there anything the university could do … do you know things like answering the phone or gardening and stuff, the university [could introduce a scheme which] *provides jobs for everyone who wants one. If the student wants a job there's one there for them and it kind of works round their schedule. As in if you have four hours off, if there was kind of a job for certain people who if they needed one. Sort of centrally coordinated, you apply separately, you go individually. Say if you went to the academic office and said, yeah I'm always short, like €30 a week like, is there any kind of* [job] *even answer phones or anything. Yeah, almost like a casual labour centre. Gardening or like anything, do you know. Like I need somebody for three hours tomorrow, somebody is out sick or whatever it might be. It would just be helpful to have."*

In terms of support for initiatives that higher education institutions already have in place, as mentioned above, schemes like student and staff mentoring were widely regarded as being highly beneficial. Another area of support which was widely acclaimed was for foundation and access courses to higher education.

"I found Access foundation course was fantastic"

"And I think that the group that we had in the Access was beneficial and the experience that we had in the Access was beneficial because when we walked in the door here we knew about things like email and we were already signed in to Moodle and we knew were the rooms were, we knew how lectures were forty-five minutes, so we had a little bit of a headway. I think that if we'd have come in here from, on day one cold, without knowing anything, some of us would have jumped ship.

"I came through TAP and I have to say that the gap there was excellent. They gave us a part time readers card for the year before you started first year. So by coming in and out from the library although you were only going to the library and coming out again, the library wasn't too unfamiliar or scary when you came here. But it did give you an idea of the amount of people that came and went from Trinity and like that you can kind of think to yourself it's really down to you to make friends, put yourself out there and not be too shy or whatever you know."

"[Was doing the foundation course beneficial?] *Oh no question about it whatsoever. Seeing both sides, not to have done it and having met some mature students who didn't do it they found it a struggle first two or three weeks here. I having done it I found it tremendous, really great."*

"Having done the foundation course I think is a huge benefit for us. Whereas I think a lot of the school leavers who didn't have that last year coming here, it's a disadvantage."

3.5.2 Academic Skills Preparation at Secondary School

As can be seen from Table 8 and Table 9, a large number of students would like to see less rote learning and more critical thinking and research at secondary school. The general consensus in the focus groups is that students do not have to take enough responsibility for their own learning at secondary school which means they face a large shift in mind-set when they commence at higher education. This view is also supported in the qualitative responses to the survey.

Hyland (2011) discusses options for the reform of the Leaving Certificate to include a greater range of assessment methods and the use of alternative assessments to reward skills such as "analytical reasoning, critical thinking, the ability to generate fresh ideas, the practical application of theory etc". Based on the responses in the survey and focus groups, it appears that students would be supportive of these changes at secondary level.

"Be given more independent learning/researching at leaving cert level, because that can be a shock when you come into college"

"Not be spoon fed in secondary education. Be given time to explore topics and learn independently."

"Change of teaching styles and curriculum in secondary school, ie. more emphasis on critical thinking and personal development"

"Less of a set structure for the leaving cert. More practice in problem solving, and being used to the idea that something might not have an answer straight away."

"Give less description of essays/assignments in secondary school and teachers should expect students to do them without getting complete guidance from teachers."

"Try to learn and study in a more natural way throughout your schooling and not just rote learn. Be given more research work to be done yourself and try to study something you're interested in in preparation for having to go and do similar research in a wider variety of topics as you will have to do in college"
"Learn how to criticize own work."

"Third level is completely different from second level: the skills of critical thinking, independent research etc are not skills that most school leavers possess when they enter college. This tells something about the efficacy of the current second level programme but it is clear that more needs to be done to foster critical thinking and to encourage this at second level."

"More practical, research-based learning at second-level that students would carry out independently."

"I went to school in England and we were made to do several long self-researched essays, encouraged to talk in small seminar style classes, to have confidence in our opinions, and how to do close reading. These are all skills that I used in college, and actually I feel gave me a head start compared to some people in my class."

"Yes, students should engage in independent research and work. As an American student, I was very used to this, and I was surprised that the Irish system is different."

"Being good at learning things off does not necessarily make you intelligent. 99th percentile leaving cert results and struggling to keep up at higher education."

"Teach us how to research rather than rote learn from a book"

"More research based projects in secondary school."

"A greater focus on independent research and more value placed on individuality and uniqueness of knowledge over rote learning."

"Within Transition Year perhaps workshops focusing on critical thinking could be offered to second level students nationally. It could become a part of the TY curriculum. Offer critical thinking as a pass/fail module for Leaving Certificate students with competency based performance markers? Students do not get a grade but have to meet certain requirements to pass this through mini-assignments. This could span in stages through 5th to 6th year?"

"The method of learning material for the Leaving Certificate is completely different to college. The Leaving Cert was all about learning off mass quantities of information in a way to get the best possible grade in the exams, whereas in college we learn to understand and be able to actually write a thoughtfully scripted answer in exams. I found this transition from teachers spoon-feeding us what information we need to know to do well in exams to actually researching information ourselves and learning from a broad variety of resources quite challenging initially, but now it just makes sense. / To answer the question, I think that the way in which subjects are taught and how study is conducted for the Leaving Cert needs to be changed to allow (or force) students to learn from more than one source of information (one textbook) to give more depth in exam answers."

In addition to greater critical thinking and research at second level, the survey respondents and focus group participants also suggested that they would have benefitted from more continuous assessment at secondary school. This is a suggestion which was also raised as a potential leaving certificate reform in Hyland (2011).

"More continuous assessment, project work with an emphasis on proper literature review and 'how to read' such documents. Set deadlines and full student responsibility to meet them."

"More continuous assessment in secondary school."

"More continuous assessment eg, projects, tests etc. that contributes to final examinations".

"Make second level a little bit more like higher level in terms of continuous assessment and accumulated effort rather than one big bang exam."

"Continuous assessment in senior cycle in school would be helpful"

The students also suggested that secondary schools should encourage more group work learning and presentation skills.

"More opportunities for presenting, public speaking, formulating critical opinions in 2nd level."

"More group work and interactive classes in secondary school, college isn't a projection from teacher to student relationship but a mutual dynamic relationship between lecturer and all the students to communicate and argue their own opinions of a topic while listening to others opinions too, whereas school is very much rote learning from a book and not enough emphasis is placed on development of self-efficacy and esteem in ones opinions"

"Really critical thinking, group work etc should be practised more at second level."

"More self-driven learning in secondary school, projects involving researching and group work and presenting instead of rote learning all the time."

"Have more presentation and group work within the leaving cert"

"Maybe in 6th year, secondary school teachers should try to organise study groups. This way, students will be able to get used to working with people aswell as encourage peer learning. I find that in college, I learn more from my friend than the actual lectures!"

"Could be set more individual/team project work in school in which they choose what to do and do the work independently of a teacher"

"More group work/individual projects in secondary school"

"Yeah, I think there should be more teamwork then as well in secondary school and stuff like people getting up to maybe a group this size and making a small presentation, getting them used to that, you know, because that instils confidence in people as well as they can learn how to give a little power point or whatever, you know"

Students who had attended further education courses felt they were better equipped with group work skills than those straight from secondary school

"Yes because we had to do presentations and we had to do continuous assessment, we were encouraged to participate in group assessments and things, so with regards to that it was similar to college and that was helpful."

"Yeah, I came in through the Access programme. I know I'm very nervous at speaking in public but I found because of the [Access programme] *I've done up to this year, yeah, all*

that sort of stuff [presenting/group work] *is really important and that's what was given, that's what I gained from those years, you know. So that's crucial I think, because when you go out in to the real world team work is really important in business terms even."*

The students also suggested that it would be helpful if the secondary school curriculum could introduce greater use of computer skills.

"I wish our secondary schools prepared us with computer programming and the use of Excel in order to familiarise them and be confident with them"

"Yeah, and, you know, in most schools there is no IT education, it's not covered as a subject."

"[Secondary school did not provide] *any IT skills, like it's not taught in secondary school and we've a country full of tech companies, you know, like our group are supposed to get in to computer courses in university and have a basic level of knowledge about what they're doing, it's not taught in secondary school, it's not taught at any level, like what century are the secondary schools working in?"*

"Including a course in school to show students have to use Microsoft correctly when writing up a project or doing a PowerPoint presentation."

"Possibly better teaching of common Computer packages, Word, Excel etc"

"As if Irish education didn't leave students unprepared enough for computer subjects!"

The students did however acknowledge that some subjects at secondary level were leading the way in terms of preparing them for higher education study. The history curriculum in particular was cited on multiple occasions as being particularly beneficial in assisting students develop the skills required for higher education. Geography, Home Economics and Construction studies projects were also mentioned as being beneficial.

"I feel history is the only subject for the LC which kind of prepares students for third level."

"More essay focus at leaving certificate level like in history."

"[In history] *they do a project and actually it does seem to be good, like they have to go research in libraries, they choose the topic themselves and it can be like anything in the History curriculum, like anything they want and it has to be really specific and it's really a lot more like a college essay than what the rest of us are used to and I think that probably did help anyone I know who did history. For us who didn't, we didn't get that, like that experience.*

"A wide variety of Leaving Cert subjects that require critical essays like History and Geography."

"Geography project, that was good, and then for Home Ec., we had to do assignments, about different things that were happening when you were cooking and write reports on that. That was good but they were stressful at the time."

"I did Construction studies and Technology for the Leaving. If I hadn't done both of those subjects I would find doing the reports very challenging...one of my friends who is on the same course has difficulty completing these reports because he hadn't done a subject for the LC that involved doing one and keeping to a deadline!"

Other subject specific suggestions at secondary school were in the areas of English and Mathematics:

> *"Learning some basic philosophy in English classes would be helpful and learning how to critically analyse performances, texts, etc. The IB* [International Baccalaureate] *and A level students all learn to do this and so Irish students are at a disadvantage entering university. Learning lots of quotes and applying them to themes does not demonstrate critical or analytic ability, only the ability to memorise quotes successfully and link them to themes. I do not think that we are challenged enough in school and I think that Irish students would excel if they were given the opportunity.*

> *"Work with citations and referencing as required in universities as part of English classes should be practised a lot more and be somewhat included in the LC not just using quotes."*

> *"More advanced leaving cert maths made available"*

> *"The standard of mathematics and physics at second level is very low and does not prepare students for higher education"*

> *"More independent thinking and less rote-learning in the Leaving Cert i.e. if every subject was a bit like Project Maths"*

> *"Do more maths, whatever you know now is not enough* [for higher education]*."*

3.5.3 Managing Expectations and Engagement

Among the most frequent suggestion under this heading was to improve the information provided to prospective students about the realities of courses of study. A number of students stated that their courses were very different from what they were expecting and that the higher education institutions should provide more transparent information on the realities of studying each course.

> *"I think students should have more information readily available to them about what their potential course is really like, and what it involves. Although I am beginning to enjoy my course a little more now, it is not at all what I expected."*

> *"College representatives who visit secondary schools should spend more time answering questions about courses and not just focusing on the college itself such as college achievements etc."*

> *"Could have been informed through the open days I attended or the prospectus that the course had modules on the main campus, TBSI, D'Olier street and James' hospital. Wouldn't have been so much of a shock when I started and I could have adjusted to the idea sooner."*

> *"Should be better informed about the course they're going into and what it actually consists of.* [It] *feels like open days etc aren't entirely truthful - stop trying to sell the course and let people know what they're in for."*
> *"A wider access to information on the nature of coursework and opinions of the courses given by alumni as well as clearer information on the career paths available afterwards. I feel this was not well done when I entered the 'Science' area having been simply told that doing a science degree would give you access to plenty of jobs."*

"More knowledge around course choices as many students enter courses which they perceive to be a certain way but in reality the course is very different to the jobs once they complete their degree. Better breakdown of what is involved in courses e.g I was unaware prior to starting college of the majority of subjects I would undertake as part of my social work degree."

"Realistic information on the requirements of the course. When I began I had no idea I would be doing 13 hours shifts in the hospital unpaid. Or that my 35 hours a week of class were compulsory."

Some suggestions on how information could be better relayed included the following:

"Give a starter pack to allow students to read prior to entering their course. This would allow people to discover the runnings of the course ahead of time."

"Speakers from colleges going to schools as opposed to the secondary students going to open days as it would be more intimate and they would be more comfortable to ask questions rather than at open days."

"Have students from different programmes volunteer to give advice to second level students on their thoughts on the transition from second to higher education; their thoughts on their 1st year in college; their thoughts on what kind of subjects they study; would they recommend the course and why. Generally don't think enough is being done to inform students specifically on what certain courses entail."

"I think that students could be more informed of course content prior to taking up a place. In my position I did find the timetable a challenge initially in terms of organising family and it was a big commitment and one that just didn't impact on me but my husband and children. And the timetable was not made available until very near the start date, same thing occurred for semester two."

It is interesting to note that Moore-Cherry et al. (2015) found that students who have mistaken expectations about their chosen course and who underestimate the level of work required are more likely to drop out of their chosen course. Thus, it is feasible to suggest that any measures taken to increase the accuracy of students' expectations about course content and workload may have the positive side-effect of reducing the number of non-completing students.

A number of students also cited that their expectations for the maths requirements on their courses were significantly underestimated. It was suggested that the low minimum entry requirements for mathematics for their courses incorrectly signalled to them that their course would not require a high level of mathematical literacy. This is supported by the results of the quantitative analysis in Section 3.1 previously which showed 35% and 22% of students found the mathematics requirements at higher education to be somewhat and very challenging respectively. This suggests that perhaps minimum entry levels should be revisited by higher education institutions, particularly with respect to mathematics, as students appear to use them as a signalling metric regarding the level of mathematics involved in the course.

"Despite achieving an A in leaving cert higher level maths, I find the standard very high in college, when the course requirement is only a C1. A higher requirement should be in place to emphasise the high standard of maths."

"For the course I study, even though it is not required, I would definitely recommend studying higher

level maths, physics, chemistry and biology at leaving cert level. I found first year quite challenging as I had done ordinary level maths, and hadn't studied physics at all. It might be an idea to give second level students an idea of how college works compared with school so they aren't as shocked/overwhelmed when they transition to higher education."

"Put out information about the importance of a good maths level"

"Possibly for the likes of maths, it would have been helpful to be informed of the book and really the level before arriving at college, as the maths taught in my secondary school by no means brought me up to the level required for class in college, even though I was one of the top students in my maths class at home"

"Give a starter pack to allow students to read prior to entering their course. It would be helpfully as you would allow people to bush up on aspects (such as maths) before entering a course."

In addition to better information on actual course content, students also suggested that more information at secondary level on the realities of life as a higher education student would have helped them with the transition.

"More talks or information distributed about the non-academic aspect of college."

"More information in general about what to expect from college and the huge transition there is."

"It might be an idea to give second level students an idea of how college works compared with school so they aren't as shocked/overwhelmed when they transition to higher education."

"I think people need more realistic expectations of what college is and how it unfolds. People need to be more prepared for the amount of work necessary and how to balance such work with social engagements."

"It would be good if they came in and talked about, you know, these things, how different it's going to be and to prepare you for college life and what the differences are between it and secondary school because in my school when colleges came in it was just kind of a general talk [about] *requirements for courses and stuff."*

In particular, students stated that they would have appreciated information from existing higher education students on what it is like to be a higher education student. Some students reported receiving talks such as these while at secondary school and praised the benefits of these talks in assisting with the transition.

"More communication with students currently in higher education - some sort of scheme where higher education students give talks to secondary school pupils and keep in touch as a sort of mentor or something."

"More student visits to Secondary Schools"

"Advice in secondary schools from 3rd level students"

"Information guides from students in higher education given to secondary schools explaining challenges and college life"

"Students who have gone through the Leaving cert and CAO process and who are now in college, should go back to their old schools and talk to current 6th years about their experiences. This would aid the transition a lot, as we would now what to expect to a certain extent."

"Perhaps during 6th year, pupils in secondary school could have one class a week held by a college student who could explain what college life is like. While I was in Transition Year two past pupils came into us, one was in UCD and the other was in Trinity. I still remember what they said to us."

A large number of students stressed the importance of extra-curricular engagement at higher education as a means of easing the transition from second level. They suggested that students should be more actively encouraged to join clubs and societies and the importance of extra-curricular engagement should be emphasised to prospective students.

"There should also be emphasis on how important extracurricular activities are, they made my transition a lot easier."

"Advise them to join clubs and societies"

"Try out lots of societies, that's where most people make friends."

"Get involved with clubs, societies, go to different events organised around the college and meet as many new people as you can."

"Doing extra-curricular activities while in leaving cert to prepare you and to teach you to balance your study with going out and clubs and societies."

However, a number of students felt that societies could be perceived as being somewhat exclusive or elitist, thus there may be an opportunity for improvement in this area, in particular to make it less daunting for students to attend on their own. Others who were commuting complained that the majority of society events occurred in the evenings making it difficult to get involved. Even students who were not commuting stated that they would appreciate more activities during the day which they could do during long gaps in their timetable.

"Societies come across as exclusive with many based on drinking (pub crawls) during Freshers week."

"Society stuff is very daunting."

"All societies held their events in the evening time, and it seemed that integration was impossible for a non-drinker who lived far away from the college."

"I found getting involved with societies quite difficult and still have little to no association with them."

"I don't think there is a strong focus on getting involved in societies and it is hard to get started in many alone."

"A lot of the societies can be seen as being dominated by people from the "posher" schools. This can be quite intimidating to young students initially and may dissuade them from joining."

"Also, joining student-run societies can be intimidating. In secondary school, the activities were generally better run and better scheduled, and I knew which ones I was settled in. It's been difficult

finding a society/activity that is the perfect fit."

Suggestions to improve extra-curricular engagement at higher education included:

"A dedicated Freshers's society maybe?"

"Make it obligatory for them to attend some more social things rather than just academic qualifications to disable the fear of going to something and looking stupid."

"An introduction to societies meeting in the first week could be good so that when you walk into a society event you know one person there who you would know is friendly and approachable."

"More meet ups/activities during the day for people who are commuting - hard to get to know people when all events are nights out."

Another area of expectations which the students felt required improvement involves information about the workload at higher education. A large number of students reported completely underestimating the workload, which was fuelled by misleading views that the leaving certificate examination is the 'hardest thing they will ever have to do'. This requires a shift change both in the format of the leaving certificate process but also in the media reporting around it.

"More realistic expectations: everybody said that the leaving cert would be the hardest set of exams I'd ever have to do; I never found them that stressful so couldn't wait to get into college, but found the academic side more difficult than I expected due to the different time constraints and independent learning expectations."

"Firstly, higher education isn't easy. Don't let TV shows or movies fool you. You have to work hard, be organised and dedicated."

"We're led to believe that college will be easy when in fact doing well requires a lot of work. We need to be informed of the amount of work actually involved."

"The fact that work is needed in college should be emphasised to second level students, most of the focus in the media and from family/friends is on the social aspect and this can make things difficult for first year students."

"It's not easier than the leaving certificate, that is a lie."

"Don't presume that you won't have work to do. I was grossly misinformed about the level of work one has to put in just to simply keep head above the water. College is wonderful for freedom but you have to use your freedom wisely and get the balance correct. The workload is similar, if not more than what's required for the Leaving Certificate, so be prepared for that and brace yourself for having to do a lot of work alone, rather than being handed materials."

The students also felt that the higher education sector could do more to openly acknowledge that there is a transitional challenge and that more discussion and information should be provided in the areas of transition to let students know that they are not alone.

"In my experience talking to college students while in secondary school, it seemed like they loved

everything about college - the classes, the people, the social life... No one ever talks about the possibility of not adoring your course, or having difficulty making friends, or not being totally into the boozy nights out. I don't know how, but starting college students need to know that it's ok to not love your course, or other things about college."

"I suppose an idea would be to encourage students to take college at their own pace, and to let them know that it's ok not to be really social and outgoing and involved all the time. Some people get stuck in right at the beginning and fit in really quickly, and that can be very intimidating and nerve wracking for some people (me). I think best advice is definitely take it at your own speed, and everything will fall into place over time. There is somewhere or something for everyone, you just might not find it immediately."

"Encourage more discussion about loneliness, isolation and academic difficulties after Fresher's week. While we were assured that everyone was nervous during Fresher's week, I felt that this message was soon lost in everyday college life."

"I feel as if a "transition period" of several weeks should be put into place to ease students from 2nd to 3rd level, as opposed to simply throwing them in at the deep and as is currently the case."

"Acknowledgement in lectures/at course meeting that some students are starting from scratch and not all have numerous previous degrees/experience."

"I feel as though higher education institutions should make the transition easier through more guidance (i.e. more frequent tutor meetings to discuss assignments and feedback meeting after the first assignment) in the first term more so than any changes in secondary level education."

"By talking to as many people as possible who have gone through the same transition, in the same course, or if there was somewhere that people could post their experiences and they could be viewed by students coming in."

3.5.4 General Skills Preparation

The most frequent suggestion from the students in both the survey and the focus groups regarding general skills preparation was to be provided with the opportunity to 'experience' higher education in advance. A large number of students referenced the work placements they undertook in transition year at school and stated that they wished they could have done a similar 'college placement' in a course they were interested in. It was apparent that some students in the survey had participated in 'shadowing days' at higher education but this practice did not appear to be widespread. The previous Section 3.5.3 discussed the challenges students face due to misplaced expectations about their course and college life in general, it is possible that the widespread introduction of a 'college experience' at secondary school would overcome many of these initial transitional challenges.

"A higher education "experience" for a week just like work experience in transition year. Where second level students sit in on lectures they may have an interest in doing post leaving certificate. It also helps them decide what they would like to study as I think open days are insufficient they just provide prospectus and free pens."

"I think the opportunity of fourth year should be used to show students what college is like. I don't feel like I'm in a course that I enjoy and it would be interesting if colleges allowed you to sample the

learning style before you choose whether or not college is for you."

"Have open days in first year courses where secondary school students are given a timetable for a day in a particular course that they're interested in so they can go to all the lectures and live out a typical college day. Lots of people come into college and then drop out or change courses because they don't like their current one but having these sort of open days will give them a better idea to see if they're making the right choice."

"Spend a week in college attending lectures, doing assignments ect as part of transition year."

For many students, commencing higher education education represents not only a change in learning environment but is also accompanied by the challenges of moving out of home and living independently for the first time. As discussed previously in Section 3.1, independent living and financial/budgeting pressures were identified as key transitional challenges for many students. Suggestions by the students to assist with these challenges are captured by the following:

"Better practical living information in secondary schools."

"Use SPHE [Social, Personal and Health Education] *in school to teach life skills, like budgeting and saving."*

"Advice on how to live away from home for the first time."

"A simple class on nutrition and grocery shopping would be beneficial to them at the start of the year."

"Give people life lessons such as budgeting."

Those students who had undertaken further education courses, such as FETAC and PLC courses, felt they had been very beneficial, particularly with respect to preparing them for the transition to higher education. As such, there were numerous suggestions that students should undertake a further education course or take a year out prior to starting higher education to help them decide if higher education is the right option for them and to help them make the transition.

"As well as their Leaving cert I would highly recommend students taking a year to complete a Fetac? Mine gave me all the confidence and information prior to entering and everything was much less daunting. I was able to meet deadlines, think critically and keep to a word count! I think the pressure too great coming from secondary education with rote learning, supervised study, projects and exams not helpful for university."

"Make a fetac level 5 be mandatory in progressing to college as a lot of the younger students don't realise what work has to be done here. Also a lot of them don't have much information about the course they have chosen and are only doing it to be in college."

"My third level education journey began completing a FETAC level 5 course. I feel the experience equipped me with a wide range of skills necessary for the challenges set out in higher level education. I feel PLC courses as such should be compulsory. It also gave me a second chance in the CAO rounds

for my ideal choice of course. The points I 'earned' in my leaving cert, I feel is not what got me to where I am today."

"I think that the foundation course for mature students I took (TAP) was a life changer and I would have found BESS [course of study] *too challenging if I had not been involved with TAP. Highly recommended and essential for me. I would also recommend the IT course I took because of its focus on the formatting of a piece of academic writing."*

"Don't be in a rush to start. Taking a gap year to figure out which course you want to do helped some people I know enormously."

"One thing I would say is students aren't ready to commit the rest of their lives at 17 years of age. Approx 25 people started my course and there is only mature students left. All the people straight out of school dropped out because they picked the wrong course or was just pushed to go to college by parents. A little life experience goes a long way and puts things into perspective!"

"Take a gap year, be encourage to do as many other things as possible before entering higher education. To research a course of study fully and independently, i.e. track down a current student and a past student and grill them on their opinion of their course and the practicalities of their day to day life."

Another factor which was repeatedly emphasised as helping students with the general skills needed to successfully move to higher education was Transition Year at secondary school. A number of students lamented the fact that their schools did not offer a Transition year programme but those students who had completed Transition Year were generally very positive about the experience and felt that it had equipped them with many of the skills required at higher education.

"Found transition year very useful, helped in getting organised and made the transition easier from second level to higher education, made you think for yourself."

[Was there anything that your school did to help students build their confidence? Either academically or extracurricular?] "*Well for us in TY, confidence was talking to other people, stuff like that … Just different things, big projects and stuff like that. Public speaking, stuff like that."*

"In our school they split the classes up again [in Transition Year]*, they did a new set of three classes, so that would help with just like meeting other people and just being surrounded by different people."*

"In second level school you have transition year and the kids get involved in various things. It's a great time because they have that time, that free time, there's no real pressure on them that year."

"You've so much time in TY as well to try, the whole point is to try new things."

"I did some of transition year in the zoology department. "

"I found transition year good for getting to know people because the year kind of mixed up more, and you went on trips and stuff. And you got to try new subjects, I suppose and you found out more about yourself and what you actually wanted to do. So I felt transition year was really beneficial."

Other students highlighted other aspects of their secondary school life which they found particularly helpful with building their general skills and which aided their transition to higher education. Many of these initiatives were individual to the school attended and did not appear to be universally undertaken across the secondary school sector. These are highlighted here as examples of measures employed by the secondary school sector which are appreciated by students.

> *"My business teacher at second level would get us to do small research projects, and my biology teacher would encourage note taking in class, which has helped me as I can now extract more useful information from research and critically assess it."*

> *"I was part of a group of elite science students from all years, first, second, third, fifth and sixth, in my second level school who got to experience higher education style lectures once a week. It involved group project work once or twice a week, it was very successful."*

> "[So was there anything that your school did particularly well to build, give you confidence] *Yeah I guess, with plays and leagues"*

> *"I didn't do transition year in school, we didn't have it but we did a lot of public speaking. It was always a big tradition in my school, and you're always encouraged to do debates and stuff like that. So that was good for confidence and speaking in front of lots of people."*

> *"I enjoyed school. I had a nice year, a nice group of people, decent school."*
> *"We had great relationships with all our teachers and like we had kind of a family in school."*

> *"I think one thing was that they always encouraged you to do your best. Encouraged ambition in my school and high standards are expected so you did work."*

4 Conclusions

This project examines the views of students on their transition from second level and further education into higher education. It involved a large survey of 1580 students and ten focus groups across four higher-level institutions in Ireland. The data obtained was both qualitative and quantitative in nature and provided a rich dataset allowing for multiple research questions to be explored. The report highlighted a number of limitations surrounding the representativeness of the underlying sample and thus while this section presents the main conclusions of this report, these should be considered in the context of the case-study analysed.

Time management was identified as the most significant element of the transition from second level to higher education, followed by written assessments, critical thinking and conducting independent research. Other areas identified as challenging included increased personal responsibility, financial and social challenges. Older students were found to be statistically significantly more like to struggle with the transition to higher education. Interestingly, it was found that prior academic success (as measured by CAO points achieved) does not impact on a student's experience of the transition from second level to higher education. Students with high points struggle just as much as students with low points. Commuting distances were also found to have a significant impact on transition, with those commuting longer distances finding the

transition more challenging than those living closer to campus. Those students who undertook further education courses prior to commencing in higher education found these courses particularly helpful in assisting the transition.

Negative experiences with the transitioning to higher education were found to have a knock-on negative impact on academic grades at higher education with students reporting finding the transition challenging statistically significantly less likely to achieve high grades. Time management was found to be the challenge which takes the longest to overcome, followed by making friends.

The students were asked to suggest measures which would help future students in the transition process. There were almost 1,100 suggestions made which fell into over 35 separate categories across four themes. These themes were higher education supports, second level academic supports, managing expectations and engagement, and general skills preparation.

Under higher education supports the students suggested more introductory classes on the academic skills required for higher education such as referencing, essay writing, note-taking etc. In particular, many students suggested that introductory courses should be more course specific and would benefit from being delivered by students rather than faculty and staff. The students were highly complementary about existing student to student mentoring schemes and staff mentors and recommended expansion of these schemes. Greater support by higher education institutions regarding the social aspects of the transition were suggested by many students including more course specific ice-breaker activities, use of social media and dedicated communal meeting places for first years and mature students. In addition, greater promotion and availability of information on existing supports is recommended.

There were a wide range of suggestions for academic skills preparation at second level with the most common being less rote learning and more critical thinking and the use of more research projects requiring students to use skills such as referencing. In terms of building confidence in their own opinions and developing necessary skills for higher education, there were many suggestions recommending greater use of group work, presentations and computers at second level. Students also suggested greater use of continuous assessment and project work in secondary school. In particular, the research project in the History curriculum for the Leaving Certificate was cited by many students as being good preparation for the sort of critical thinking and research required at higher education.

Many students stated that a significant contributor to the transitional challenge was unrealistic expectations surrounding the details of their course and the level of work required. There were many suggestions for more information on the realities of studying different courses and on college life in general. It was suggested that higher education institutions should prepare a course-specific 'welcome pack' for incoming first years which would provide in-depth information on the realities of individual courses, campus maps and details of where their course would be located, testimonials acknowledging that students often find the transition difficult and information on the range of supports that are available,. At second level, students suggested that schools should invite former students to return to their alma maters and provide talks on what being a higher education student is really like and about their own experiences of the transition.

The most common suggestion on general skills preparation was to introduce a 'college experience' programme in secondary schools similar to the 'work experience' component of many transition year programmes. It was clear that some students had been provided with an

opportunity such as this in week-long 'shadowing' programmes where they attended lectures, took notes and toured campuses, however, this practice did not appear to be widespread and increasing the use of these programmes was generally encouraged by students. Also, those students who had undertaken further education and access courses prior to entering higher education were particularly complimentary about the general skills that these courses provided.

While the students made a great many suggestions on how they could be better assisted in the transition to higher education, there was also acknowledgement by the students that some existing measures are already highly beneficial. While many of these have already been mentioned, they warrant re-emphasis, in particular, the supports and skills provided in access programmes and further education courses; the general skills and opportunities developed in good Transition year programmes; the academic and critical thinking skills nurtured in some programmes at leaving certificate, such as the History curriculum; higher education student 'shadowing' programmes at second level; and student to student programmes and staff mentoring at higher education.

Thus, in conclusion, the students reported a large number of challenges encountered when transitioning from second level and further education into higher education and the results and analysis in this report indicate that these challenges are not necessarily short-lived in duration and have a negative impact on academic achievement at higher education. However, there are a range of measures which the students acknowledge as being particularly helpful in the transition and they recommend increased use of these measures as well as a host of other suggestions for both the secondary and higher education sectors, many of which are likely to be relatively simple and inexpensive to implement.

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Appendix A: Student Survey

General Survey Information

This survey is part of a study on transitional issues from second level/further education to higher education. It is being conducted by Prof. Eleanor Denny in the Economics Department at Trinity College Dublin and she can be contacted at dennye@tcd.ie if you have any questions on this study.

This survey should take under 3 minutes to complete and you will be asked **a maximum of 15 questions.** Each question is optional and you may withdraw at any time and for any reason without penalty.

The data you provide will be treated with full confidentiality and, if published, responses will not be identifiable by individual respondent. Dr. Denny has familiarized herself with the Data Protection Act and the College Good Research Practice guidelines http://www.tcd.ie/info_compliance/dp/legislation.php and will manage and maintain the data and results of this survey according to best practice as defined by these guidelines.

You must be 18 years of age or older to answer this questionnaire.

In the extremely unlikely event that illicit activity is reported during this study, the lead researcher will be obliged to report it to appropriate authorities.

By completing and submitting this survey you give your consent for this information to be used in this research study.

Do you wish to continue with this survey? Yes/No*

*This question is obligatory and a 'no' answer automatically exits the respondent from the survey.

Main survey questions

1) What is your age? (this question is obligatory and if a respondent is less than 18 years of age they will not be permitted to proceed)

2) What is your gender? Male/Female

3) Did you enter higher education education directly following the leaving certificate examination? Yes/No

4) If 'Yes' to Q4, please state the total number of CAO points you achieved:

5) If 'Yes' to Q4, would you classify your secondary school as urban or rural? Urban/rural

6) If 'No' to Q4, please specify if you undertook any further education prior to enrolling in TCD: Yes (please state the courses you undertook) / No

7) What programme are you currently enrolled in at higher education?

8) In which range would you rate your academic success at higher education to date? averaging 70% or above grades, averaging 60-69%, averaging 50 – 59%, averaging 40 – 49%, averaging failing grades.

9) Did you find any of the following a challenge when you started higher education?

	Not challenging at all	**Somewhat challenging**	**Very challenging**	**Not applicable**
Managing your time and completing assignments on time	o	o	o	o
Note-taking in lectures/classes	o	o	o	o
Large classes	o	o	o	o
Participating in lectures/classes	o	o	o	o
Group work	o	o	o	o
Written assignments	o	o	o	o
Mathematics requirements	o	o	o	o
Being able to critically assess materials provided	o	o	o	o
Researching topics myself	o	o	o	o
Integrating socially and making new friends	o	o	o	o
Engaging with college life outside the classroom	o	o	o	o

10) Is there anything else you found challenging about higher education?

11) Do you have any suggestions on how students could be better prepared for the transition to higher education?

12) How long did it take you to overcome those aspects of starting higher education that you identified as being challenging?
    - o A few days
    - o A few weeks
    - o A few months
    - o I still find some/all of them challenging

13) Do you live at home with one or both of your parents/guardians? Yes/No

14) If 'No' to Q13, please specify your current living arrangements: On campus accommodation, rented accommodation, owned accommodation, with other family members, other

15) What is your commuting time to College? Less than 15 minutes, 15 – 30 min, 30 – 45 min, 45min – 1hr, greater than 1 hour.

16) The researcher will be running two short focus groups on transitional issues from second level/further education to higher education. There will be seven students in each focus group and these participants will be entered into a raffle to win an amazon voucher worth €250. Would you like to be considered for participation in one of these two focus groups? Yes/No

17) If 'Yes' to the previous question: Please enter your email address below so you can be contacted should you be selected for participation in the focus groups. By providing your email address you will also be included in the raffle to win one of two €50 amazon vouchers associated with completing this survey. Please note, this email address will only be used to contact you in relation to focus group participation and/or to alert you if you have won a raffle prize. It will not be used for any other purpose nor will it be used to identify you in the analysis of this survey.

18) Do you wish to submit your responses to this survey? Yes/No

19) If 'no' to previous question then: Thank you for taking the time to complete this survey and we're sorry you are not prepared to submit your answers. If you selected 'No' in error and would in fact like to submit your responses please click 'submit' below. Otherwise, select 'exit' to have your responses omitted from the database. Submit/exit

Appendix B: Details of statistical methodology and analysis

This section explains in detail the methodology and regression results underlying the summary results presented in Sections 3.2 and 3.3. This appendix details firstly the methods used to determine factors which exacerbate the transitional challenge for students and secondly how the transition impacts on academic performance.

B.1 Statistical analysis to determine the factors exacerbating the transitional challenge

In order to conduct this analysis, each of the transitional challenge variables listed previously in Figure 1 and Table 4 (*Time, NoteTaking, LargeClass* etc) was coded to take on one of four distinct values, 1 through 4, with 1 representing an answer of 'Not challenging at all', 2 representing 'somewhat challenging', 3 representing 'very challenging' and 4 representing 'not applicable'. Responses listed as 'not applicable' are omitted in the analysis, thus for analysis purposes, each of these transitional variables can take on a value of 1, 2 or 3 only.

These transitional challenge variables are analysed jointly in this section. It is hypothesised that analysing these variables jointly provides a measure of a student's overall experience of transitioning to higher education. Thus, a new variable *AveTrans* is created to capture a combination of all of the individual transition variables. The average transition score (*AveTrans*) for student *i*, is calculated as the average of their response to each of the listed individual challenges. This variable is defined in equation (1) below:

$$AveTrans_i = average\begin{pmatrix} Time_i, Notetaking_i, LargeClass_i, Participating_i, \\ Groupwork_i, Writing_i, Maths_i, CriticalAssess_i, \\ Research_i, SocialFriends_i, CollegeLife_i \end{pmatrix} \quad (1)$$

$AveTrans_i$ can take on any continuous value in the range of 1 to 3, with a value of 1 indicating that the student reported experiencing no challenge whatsoever with any of the aspects of transitioning to higher education. A value of 3 indicates that they found all aspects of the transition very challenging. Four respondents were found to have a value of *AveTrans* of 1, and six respondents were found to have a value of 3, with the remainder being between the two values. Figure 5 illustrates that the variable *AveTrans* is distributed normally.

Since *AveTrans* is a constructed variable, with increments in value having relatively little real-world meaning, the variable is standardised to have a mean of zero and a standard deviation of one to allow for interpretation in terms of units of standard deviations from the mean. For example, if the results showed that an increase in the age of a student by ten years increases *AveTrans* by 0.16 units, this value of 0.16 is relatively meaningless. More intuitive is to understand how this value relates to the standard deviation across all students, for example, it is easier to interpret a result like "on average, a 28 year old student will find the transition 0.5 standard deviations more challenging than an 18 year old student". The standardised *AveTrans* variable is denoted by *StdAveTrans*. Table 10 below illustrates the descriptive statistics for the transitional variables data.

Figure 5: Distribution of Average Transition Score (AveTrans)

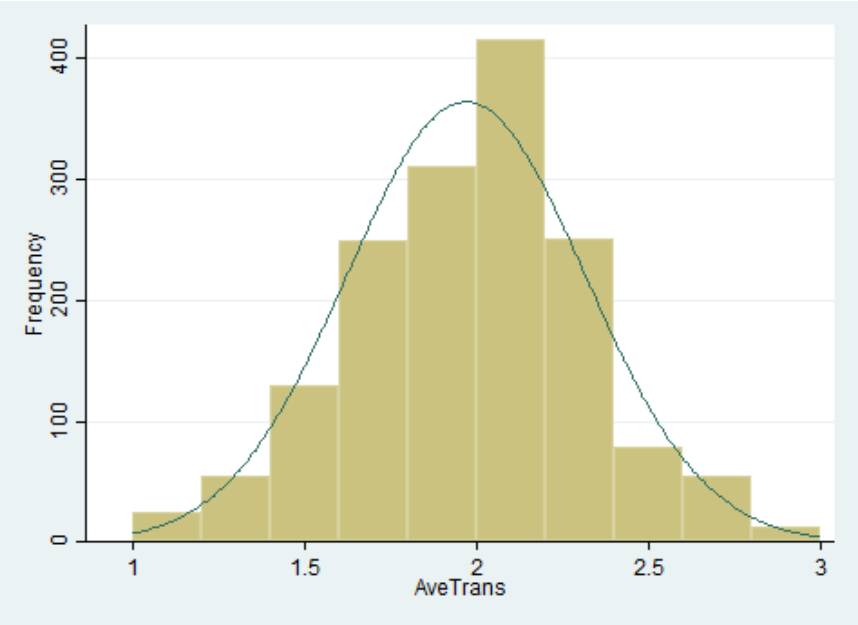


Table 10: Descriptive statistics for transition variables

VARIABLES	N	mean	Std dev	min	max
Dependent Variables					
Continuous and bounded					
AveTrans	1,580	1.939	0.365	1	3
StdAveTrans	1,580	0	1	-2.79	2.98
Categorical and bounded					
Time	1,570	2.199	0.621	1	3
NoteTaking	1,571	1.881	0.707	1	3
LargeClass	1,504	1.665	0.761	1	3
Participating	1,551	2.074	0.745	1	3
Groupwork	1,455	1.907	0.702	1	3
Writing	1,513	2.101	0.641	1	3
Maths	1,174	1.776	0.771	1	3
CriticalAssess	1,520	2.074	0.689	1	3
Research	1,553	2.049	0.704	1	3
SocialFriends	1,560	1.852	0.774	1	3
EngageCollege	1,538	1.977	0.794	1	3

The first research question explores the factors influencing students' overall experience of transitioning to higher education. This is estimated using Model 1 below:

Model 1

$$StdAveTrans = \alpha + \beta_1 Age + \beta_2 Male + \beta_3 (LC * CAOpoints) + \beta_4 (LC * Urban) + \beta_5 (Parents) + \sum_{k=1}^{4} \theta_k (Commute) + \sum_{j=1}^{10} \eta_j (Course_j) + \sum_{m=1}^{3} \varpi_m (Institution) + \varepsilon \quad (2)$$

Where *Age* represents the student's age in years, *Male* is a dummy variable with a value of 1 if the student is male and zero otherwise. If a student entered higher education directly from the leaving certificate (Wilcox et al.) they were asked to state the number of CAO points they received in their leaving certificate examination (CAO). These students were also asked whether their school was urban or rural; if urban, then the variable *Urban* takes a value of 1, zero otherwise. Since students were only asked about their CAO points and the location of their secondary school if they entered directly from secondary school, these two variables are interacted with the dummy variable *LC*. Students who live with their parents have a value of 1 for the variable *Parents* and zero otherwise.

As shown in the data summary previously in Table 2, there are five categories for the length of commute to higher education institute. These are represented by the variable *Commute* with the category of 'over 1 hour' being used as the base dummy. Controls are included for course of study, *Course*, and institution attended, *Institution*. *CreativeArts* is used as the base dummy for course of study and Limerick Institute of Technology (*LIT*) for higher education institution.

It should be noted that some of the variables in Model 1 are correlated with each other which could affect the standard errors for these variables and hence their statistical significance. For example, the decision to live with ones parents while at higher education is related to where parents live relative to the higher education campus. There is a positive correlation between the decision to live with parents and those with commuting distances in the longest two categories (45 minutes to 1 hour, and over 1 hour) i.e. too close to campus to justify moving out. Thus, a number of different permutations of Model 1 will also be estimated.

Other correlated variables are *CAOpoints* with course of study, *Course,* and *Institution*. Certain courses (e.g. Medicine) have students with higher average CAO points than for other courses and certain institutions have a higher concentration of high points courses. Thus, Model 1 will also estimate these variables separately. Table 11 shows the means for these related variable to illustrate they are not strictly independent.

Table 11: Relationship between CAO points and institution

	Average CAO points
Overall average	509
TCD	532
UL	464
MIC	453
LIT	366
Medicine	596

It can be seen from Table 11 that although there exists some relationship between the variables, the levels may not be sufficiently high as to cause undue concern regarding multicollinearity in the estimation of Model 1. Multicollinearity impacts on the significance of the coefficients rather than the magnitude of the coefficients thus for analysis purposes, the full version of Model 1 (as presented in equation (2)) will remain the focus of the discussion that follow.

Table 12 presents the results from the estimation of Model 1 with a number of permutations using an ordinary least squares estimation[4]. A positive coefficient in Table 12 indicates that a variable increases the probability of finding the transition challenging, whereas a negative coefficient indicates a reduction in the transitional challenge.

Table 12: OLS estimation of average transition experience

VARIABLES	Model 1a	Model 1b	Model 1c	Model 1d	Model 1e
Age	0.046**	0.040**	0.044***	0.044**	0.044**
	(0.0183)	(0.0174)	(0.0166)	(0.0182)	(0.0182)
Male	-0.203***	-0.224***	-0.237***	-0.216***	-0.199***
	(0.0610)	(0.0584)	(0.0592)	(0.0608)	(0.0606)
LC*CAOpoints	-0.000135	0.000630		-0.000168	-0.000109
	(0.000533)	(0.000386)		(0.000533)	(0.000528)
LC*Urban	-0.0756	-0.0551	-0.0654	-0.0922	-0.0641
	(0.0658)	(0.0647)	(0.0637)	(0.0654)	(0.0616)
Parents	0.0538	0.0536	0.0624	0.132**	
	(0.0697)	(0.0693)	(0.0672)	(0.0609)	
Medicine	-0.191		-0.186	-0.193	-0.195
	(0.151)		(0.142)	(0.151)	(0.150)
Nurse/Midwifery	0.00499		-0.0500	0.0208	0.000805
	(0.169)		(0.161)	(0.169)	(0.167)
Law	-0.128		-0.130	-0.119	-0.131
	(0.136)		(0.128)	(0.136)	(0.136)
Engineering	-0.0394		-0.0563	-0.0377	-0.0404
	(0.106)		(0.102)	(0.106)	(0.106)
Arts/Humanities	-0.0819		-0.0696	-0.0946	-0.0805
	(0.0861)		(0.0827)	(0.0859)	(0.0854)
Business/Economics	0.178*		0.142	0.168*	0.181*
	(0.101)		(0.0980)	(0.101)	(0.0999)
ComputerScience	-0.0708		-0.0562	-0.0649	-0.0421
	(0.127)		(0.122)	(0.127)	(0.125)
SocialWk	0.196		0.166	0.207	0.202
	(0.182)		(0.179)	(0.183)	(0.182)
Science	-0.0455		-0.0308	-0.0483	-0.0554
	(0.0875)		(0.0835)	(0.0873)	(0.0867)
HealthScience	0.0757		0.0723	0.0842	0.0803
	(0.126)		(0.121)	(0.126)	(0.125)
0 – 15 min	-0.324***	-0.358***	-0.318***		-0.356***
	(0.120)	(0.115)	(0.118)		(0.106)
15 – 30 min	-0.150	-0.166	-0.152		-0.170*
	(0.105)	(0.105)	(0.103)		(0.0971)
30 – 45 min	-0.172*	-0.189*	-0.145		-0.177*
	(0.104)	(0.104)	(0.101)		(0.0999)
45 min – 1 hr	-0.134	-0.159	-0.121		-0.137
	(0.107)	(0.107)	(0.104)		(0.104)
TCD	0.551***		0.540***	0.617***	0.543***
	(0.142)		(0.115)	(0.139)	(0.141)

[4] Since the variable *AveTrans* is bounded from above by 3 and below by 1, the regression was also estimated using a bounded Tobit model. The results were highly consistent across both methods (most likely due to the small number of observations at either bound in the Tobit model), thus the OLS model is used for ease of interpretation.

UL	0.569***		0.581***	0.555***	0.566***
	(0.158)		(0.148)	(0.158)	(0.158)
MIC	0.606***		0.570***	0.589***	0.594***
	(0.174)		(0.165)	(0.173)	(0.173)
Constant	-1.047**	-0.806*	-1.072***	-1.223***	-0.974**
	(0.459)	(0.422)	(0.372)	(0.451)	(0.443)
Observations	1,240	1,240	1,319	1,240	1,252
R-squared	0.053	0.031	0.054	0.047	0.052

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

From Table 12 it is seen that *Age* has a positive, consistent and significant impact on the transition across all model specifications. The coefficient in the full model, Model 1a, is 0.046 which indicates that for every year older a student is, they find the transition 0.046 standard deviations more challenging. In other words, comparing an 18 year old and a 28 year old, the latter is likely to find the transition almost half a standard deviation (0.46) more challenging than the former. In other words, the older the student, the harder they find the transition into higher education.

It is seen that the coefficient for Male is negative and significant. The coefficient of -0.203 suggests that, controlling for all the other factors listed in Table 12, males are 0.203 standard deviations less likely to report finding the transition to higher education challenging. While this is a statistically significant result in the survey responses, it was not apparent in the focus groups or in the qualitative survey responses. It is unclear whether males genuinely experience less difficulties with transition, or if they are simply less likely to report difficulties with transition. The lower response rate for males, representing just 36% of the overall survey responses, suggests the latter.

A student's academic performance at secondary level (as measured by *CAOpoints*) does not appear to have any impact on the transition to third-level, a result which is consistent across all model specifications. *CAOpoints* is correlated with institution attended, and to a lesser extent to course studied, and as such Model 1b estimates *CAOpoints* by dropping course of study and institution variables. It can be seen however, that the coefficient, although marginally larger remains insignificant. This is a very interesting result and perhaps counter to common belief; academic performance at second level has no impact on a student's experience of transitioning to higher education. Students with strong prior academic success (as measured by high CAO points) struggle overall just as much as those with weak prior academic success (as measured by low CAO points).

The coefficient for *LC*Urban* suggests that students who attended an urban rather than a rural secondary school find the transition to higher education less challenging.

In terms of course of study, there is some variation in the size and direction of the coefficients however, for the most part these are non-significant. The only course showing a significant coefficient is Business and Economics courses (*BusEcon*) which has a positive and significant coefficient of 0.178. In other words, these students find the transition 0.178 standard deviations more difficult. Additional statistical analysis (omitted for brevity), suggests that these students struggle in particular with large class sizes and the mathematics components of these courses,

with the odds of business and economics students finding mathematics challenging over twice as high than for any other discipline.

It appears from Table 12 that short commuting distances significantly reduces the transitional challenge. Those with a commute of 15 minutes or less are 0.324 standard deviations less likely to have transitional issues compared to a student with a commute of over 1 hour, a result which is highly significant. As commuting times increase, so too does the transitional challenge. This result and the size of the coefficients is consistent across all models, including Model 1e (which omits the correlated variable *Parents*). It is likely that commuting times impact on a student's ability to engage with College, in particular to participate in extracurricular events and social activities in the evenings. Also, a longer commute is likely to be more tiring and may have a knock-on impact on academic aspects also.

Living with parents has a positive but insignificant impact on transitional challenges across models 1a, 1b, and 1c. The decision to live with ones parents while at higher education is related to where parents live relative to the higher education campus, however, the role of living with parents, controlling for commuting distance, is small and insignificant.

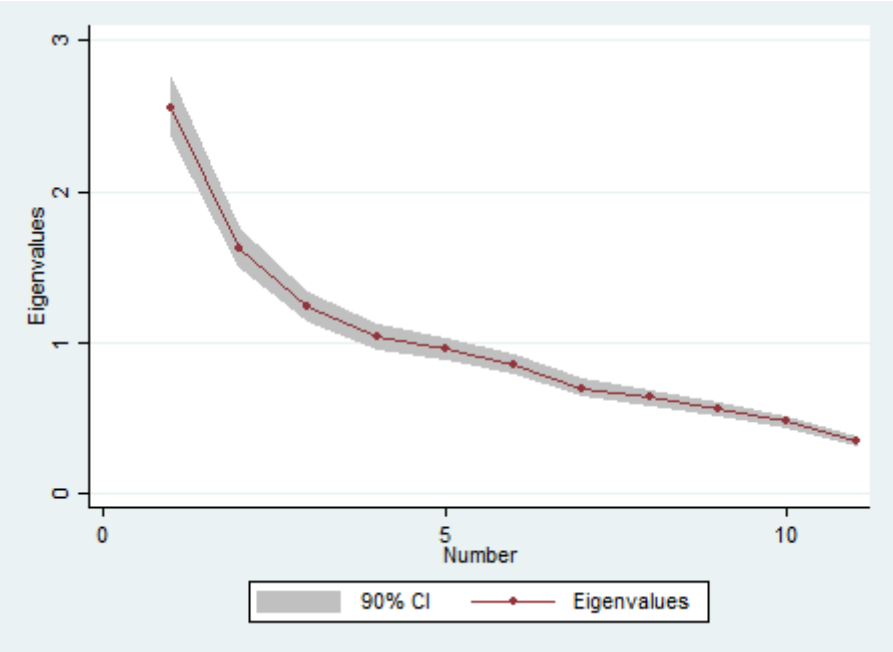
The dummy variable for institution of study is Limerick Institute of Technology. It is seen that students attending the other institutions report statistically significantly greater difficulty with the transition to higher education. This may be due to the supports and awareness of supports available at LIT, or it could be due to the fact that the learning environment at LIT is more closely related to the learning environment at secondary school/further education and as such is less of a transition for students. However, given the limitations in sample selection for this project, further study is recommended to extend the analysis into the role of institution type in the transitional experience.

The role of attending a further education course prior to commencing at higher education was also investigated for the subgroup of students who did not transition directly from secondary school to higher education. The analysis found that attending further education reduces the average transition score but the results are just outside the bounds of statistical significance.

A summary of the results from this regression model, together with anecdotal evidence from the qualitative responses are presented Section 3.2.

The analysis above and the discussion in Section 3.2 provide an overall picture of transitional challenge. A number of statistical tests were conducted following the regression analysis to determine the reliability of these results, such as Cronbach's alpha test, principal component analysis and screeplot (illustrated in Figure 4). The reliability score for the full model is 0.65 which is considered in the statistical literature as being acceptable reliability. The alpha reduces on removal of any individual factor. This implies that the eleven aspects of transition included (*Time management, NoteTaking, Large Classes* etc*)* provide an adequate measure of overall transition. The screeplot in Figure 6 also indicates that there is no obvious break-point below which components can be omitted i.e. all components can be retained.

Figure 6: Screeplot of Eigenvalues after principal component analysis



Ideally, the Cronbach's alpha score would be greater than 0.8 and thus, it is likely that the regression analysis above does not fully capture all elements of the transition. By examining the qualitative results, it is recommended that future studies also include "commuting", "financial issues", "increased responsibility" and "academic requirements less well defined" in the variables capturing the overall transitional challenge to improve the internal reliability of *AveTrans*.

B.2 Statistical analysis to examine the impact of transition on academic performance

This section explores if a student's experience of the transition impacts on their academic performance at higher education. For example, what is a student's probability of getting a higher grade given their experience of the transition? The survey asked students to identify their average grades and the answers to this question were used to generate the variable *Grade* which takes on a value of 5 if a student is averaging first class honours (≥70%), a value of 4 if a student is averaging a II.1 (60 – 69%), a value of 3 for a II.2 (50 – 59%), a value of 2 for a III (40 – 49%) and 1 for a fail (≤39%). The variable *Grade* is then estimated using the average transition variable as an explanatory variable.

Students were also asked the following question: "How long did it take you to overcome those aspects of starting higher education which you identified as being challenging?". The answer options were "A few days", "A few weeks", "A few months" and "I still find some/all of them challenging". The responses to this question were used to generate a variable called *HowLong* which takes a value of 1 if a student reported the taking 'a few days' to overcome the transitional issues, a value of 2 represents a response of 'a few weeks', and 3 and 4 represent 'a few months' and 'still challenging' respectively. Model 2a investigates if the duration of the impact of the transition has an impact on academic performance by including the variable *HowLong* as an explanatory variable. This model also controls for a student's CAO points and institution attended as these may also have an influence on grades at higher education.

Model 2a

$$Grade_i = \alpha + \beta_1 AveTrans_i + \beta_2 HowLong_i + \theta_1 LC * CAOpoints_i + \sum_{i=1}^{3} \mu_i Institution + \varepsilon \quad (3)$$

It is also interesting to see which aspects of the transition have the most influence on academic performance at higher education. Thus, Model 2b is also estimated to examine the role of the various aspects of the transition on academic grades.

Model 2b

$$\begin{aligned} Grade_i = {} & \alpha + \beta_1 Time_i + \beta_2 Notetaking_i + \beta_3 LargeClass_i + \beta_4 Participating_i + \beta_5 Groupwork_i \\ & + \beta_6 Writing_i + \beta_7 Maths_i + \beta_8 CriticalAssess_i + \beta_9 Research_i + \beta_{10} SocialFriends_i \\ & + \beta_{11} EngageCollege_i + \varpi_1 HowLong + \theta_1 LC * CAOpoints_i + \sum_{i=1}^{3} \mu_i Institution + \varepsilon \end{aligned} \quad (4)$$

The descriptive statistics for *Grade* and *HowLong* are provided in Table 13 below. Descriptive statistics for the other variables have been provided previously in Table 2 and Table 10.

Table 13: Descriptive statistics for supplementary variables

Variables	N	Mean	St dev	Min	Max
Grade	1572	3.953	0.849	1	5
HowLong	1563	3.139	0.961	1	4

Given the ordered and discrete nature of the variable *Grade*, Models 2a and 2b are estimated using an ordered logit model and Table 14 presents the odds ratios (rather than the coefficients of the logit model) for ease of interpretation. An odds ratio greater than 1 implies that the explanatory variable increases the odds of achieving a higher value of *Grade*. A value of less than 1 implies the variable reduces the odds of achieving a higher grade.

Table 14: Impact of transition on academic performance, odds ratios

VARIABLES	Model 2a grade	Model 2b grade
AveTrans	0.466***	
	(0.0802)	
HowLong	0.773***	0.761***
	(0.0468)	(0.0596)
Time		0.589***
		(0.0732)
NoteTaking		0.951
		(0.0977)
LargeClass		1.110
		(0.107)
Participating		0.701***
		(0.0728)
Groupwork		1.214*
		(0.128)
Writing		0.930
		(0.110)
Maths		0.776***
		(0.0729)
CriticalAssess		0.915
		(0.108)
Research		0.815*
		(0.0920)
SocialFriends		0.855
		(0.0992)
EngageCollege		1.331***
		(0.147)
LC*CAO	1.007***	1.008***
	(0.000968)	(0.00127)
TCD	0.814	1.130
	(0.207)	(0.365)
UL	1.657*	1.677
	(0.497)	(0.637)
MIC	1.532	2.336**
	(0.464)	(0.885)
Constant cut1	0.0266***	0.0157***
	(0.0152)	(0.0118)
Constant cut2	0.131***	0.0989***
	(0.0674)	(0.0666)
Constant cut3	1.114	0.833
	(0.560)	(0.552)
Constant cut4	9.688***	6.863***
	(4.908)	(4.566)
Observations	1,234	783

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Looking first at the estimations in Table 14, it can be seen that a student's overall experience of transition *AveTrans* has a statistically significant odds ratio of less than one. This implies that the greater the value of *AveTrans*, the lower the odds of getting a higher grade, in other words, the more a student struggles with the transition, the less likely they are to get higher academic grades.

The odds ratio of 0.466 implies that a student with an average transition score of 3 (an average experience of 'very challenging') is 54% (1-0.466) less likely to get a first class honours grade than a student with an average transition score of 2 (an average experience of 'somewhat challenging). Thus, transition has a significant and negative impact on academic performance.

It can also be seen that the length of time it takes for a student to overcome the transitional challenges also has a statistically significant impact on their academic performance. The odds ratio is less than 1 which implies the longer it takes to overcome the transitional challenge, the less likely the student is to get a higher grade. The odds of getting a first class honours are 23% (1-0.773) lower for a student who takes months rather than weeks to overcome the challenges of transition.

Looking next at Model 2b, it is possible to identify which aspects of the transition have the greatest impact on academic performance at higher education. Here we see that time management, *Time*, has the most significant impact on higher education grades i.e. it has an odds ratio furthest from one. The odds ratio is less than 1 which means that students who find time management more challenging are statistically significantly less likely to get higher grades. The odds ratio of 0.589 implies that a student who finds time management 'very challenging' is 41% less likely to average first class honours grades than a student who finds time management 'somewhat challenging'. This results is consistent with the findings of Nelson and Nelson (2003).

Similarly, participating in class (*Participating)*, conducting independent research (*Research)* and experience with mathematics (*Maths)* all have statistically significant odds ratios of less than one. This means that students who find these aspects challenging are statistically significantly less likely to get higher grades a finding consistent with Kuh (2007) and Ballinger (2003).

Surprisingly, students who report challenges with groupwork (*Group)* and engagement with college life (*Engage)* are slightly more likely to get higher grades. It is possible that these students are highly academically focused who prefer to work independently, rather than in groups, and don't tend to engage in college activities, although further research is recommended to explore this result further as it seems inconsistent with intuition and some of the literature in the field (Goldfinch et al., 1999; Kuh, 1995).

It can also be seen from both Models 2a and 2b in Table 14 that higher CAO points result in higher grades at higher education, a result supported by the literature which shows prior academic performance is a significant determinant of success at higher education (Park and Kerr, 1990; D'Agostino and Bonner, 2009).

Using the variable *HowLong* it is also possible to determine which of the transitional challenges is likely to last the longest. This is done using Model 3 below and is estimated using an ordered logit model.

Model 3

$$HowLong_i = \alpha + \beta_1 Time_i + \beta_2 Notetaking_i + \beta_3 LargeClass_i + \beta_4 Participating_i + \beta_5 Groupwork_i + \beta_6 Writing_i + \beta_7 Maths_i + \beta_8 CriticalAssess_i + \beta_9 Research_i + \beta_{10} SocialFriends_i + \beta_{11} EngageCollege_i + \varepsilon \quad (3)$$

Table 15 presents the odds ratios from the ordered logit estimation of Model 3.

Table 15: Which transitional challenges are likely to last the longest?

VARIABLES	Model 3 *HowLong*
Time	2.191***
	(0.247)
NoteTaking	1.115
	(0.106)
LargeClass	1.050
	(0.0923)
Participating	1.205**
	(0.110)
Groupwork	1.276***
	(0.119)
Writing	1.168
	(0.126)
Maths	0.991
	(0.0818)
CriticalAssess	1.112
	(0.120)
Research	1.018
	(0.104)
SocialFriends	1.470***
	(0.155)
EngageCollege	1.269**
	(0.127)
Constant cut1	4.597***
	(1.842)
Constant cut2	41.61***
	(16.92)
Constant cut3	120.4***
	(50.28)
Observations	966

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The higher the value of the odds ratio for a particular explanatory variable, the more likely the student is to report the transitional challenge took longer to overcome. It can be seen that time management, *Time*, has the highest odds ratio which implies students reporting that this issue was challenging are more likely to report a longer time in overcoming it. In other words, time management can be viewed as the challenge which takes the longest to overcome. This is followed in order by making friends, group work, engaging in college life and participating in lectures and classes.