# So how was it for you? Students with disabilities transitioning to higher education: a mixed methods study.

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## Abstract

This paper describes the methodological framework for a large scale longitudinal study examining the experiences of students with disabilities transitioning from 6th year of secondary school to higher education. The study combines inductive and deductive logics of enquiry using 1) college application and admissions data collated from one HEI, and 2) personal viewpoints collated via an online survey and discussion forum. This study was designed as a concurrent-transformative-triangulation-convergent Mixed Methodology with equal weighting and merged results delivered in two sequential phases. Research questions examine access to opportunities, and support and guidance through the transition process from the perspective of students, parents and practitioners within the education system, as stakeholders in the process. The strategic and structural elements of the research process are discussed with reference to the appropriateness of the epistemology, theoretical perspective, methodology and methods of data collection.

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## Introduction

Rose & Shevlin (2010) make clear statements about the necessity to ensure that students are encouraged to voice their needs, intentions and aspirations for the future, and to support such engagement and participation. They draw attention to the need for developing tools that permit pupils to engage in self-evaluation as a means of moving towards achievable goals using a “systematic approach to investigating pupil responses” (2010, p. 131). The objective of the study is to identify issues related to transition of students with disabilities in order to inform future practices within senior cycle and third level education. By identifying the main issues and examining the frequency of co-occurring experiences it may be determined whether such experiences are generalisable. The principal aims therefore are:

1. To document access to initiatives, advice, support and guidance using online surveys embedded within a dedicated ‘transition’ internet site.
2. To investigate personal perceptions of the impact of disability and to determine how these affect academic aspirations and achievement via an online discussion forum.
3. To re-examine transition experiences at the conclusion of the first year of undergraduate education, through a thematic analysis of in depth interviews.
4. To use an emancipatory methodology that permits students with a disability to voice their experiences of transition.

## Methodology

Creswell & Plano Clark (2007) describe the Mixed Method (MM) approach as “a research design with philosophical assumptions as well as quantitative and qualitative methods” (2007, p. 5), based on a belief that combining both perspectives provides a clearer understanding of the research problem or question. Such a combination can be achieved in three ways: by merging, connecting or embedding both types of data. These combinations are used in many large scale studies (Luzzo, 1995; Richter, 1997; Thogersen-Ntoumani & Fox, 2005; Edmeades et al., 2010), and thus seemed the most suitable for this research project. A mixed method approach enhances the data by using qualitative methods as a tool for exploration, and quantitative methods as a tool for explanation.

Within this study quantitative data, whilst illustrating the scale and incidences of experiences and providing additional evidence to support theory, may not inform how experiences of disability within the transition process are internalised. Equally they may not lend weight to the argument that there are serious issues at an individual / institutional level. Qualitative methods consider the need for the insider viewpoint to lend depth and gravity to the research, and to avoid situations where statistical data may be skewed or re-interpreted.

## Research questions

In order to formulate research questions a hierarchy of concepts was constructed to assist with visualizing such questions:

Research area: Transition experiences of second level students with disabilities, their parents and other stakeholders

Research topic: Determinants / factors in successful transition to higher education

Research objectives: Investigation of the relationship between disability and successful transition

Research questions: What is the relationship between disability and access to / completion of successful transition

Specific questions: What is the relationship between specific disability and transition experiences?

What is the relationship between school type and successful transition?

What is the relationship between access to and quality of support and successful transition?

What is the relationship between barriers / areas of concern and successful transition?

How and to what extent do the above relationships inter-relate?

What are the effects?

Research data: Quantitative data: survey items to measure variables for: specific disability, school type, current school year, access to and quality of support and guidance; student, parent and stakeholder viewpoints.

Qualitative data: survey and discussion forum feedback describing experiences and concerns; in depth interviews

## Research design

Creswell & Plano Clark (2009) argue that mixed methods permit multiple ‘worldviews’ and a greater freedom in the use of methodology and data. Investigating rare, hidden, elusive, marginalized, excluded and blurred populations, Rossi (2008) states that “without solid qualitative research it is not possible to define appropriate quantitative methodology” (2008, p. 3). Educational research is concerned with investigating the phenomena of educational experiences whether they are environmental, cognitive, behavioural, social or a mix or blending of these aspects. Within this field of enquiry lie paradigms that are used to identify specific areas for research. Brannen (2006) describes the importance of considering paradigms and philosophical assumptions, pragmatics and politics during the process of selecting an appropriate methodology, although “some of the advantages of mixed method research may not emerge until the *end* of the research process” (2006, p. 9).

The study was designed around the worldviews of pragmatism, advocacy and participation. The latter considers political issues such as marginalization and empowerment and seeks to address social injustices or inequities, and to investigate change by collaborating with individuals affected by such issues. Pragmatism considers the research question to be of primary importance rather than a particular method of investigation, and involves both inductive and deductive thinking: what data do I have, and what does it mean? A pragmatic worldview considers that whilst specific questions have been identified, they may need to be revised and adapted during the course of the research. For this research study an important consideration was that the methodology should be designed to facilitate the viewpoint of the research subjects.

The epistemology that emerged suggested the need for a concurrent-transformative-triangulation-convergent design, where qualitative and quantitative approaches are used simultaneously to “confirm, cross-validate, or corroborate findings within a single study” (Creswell, 2003, p. 217). Data is then converged within either the analysis or discussion of findings, with the aim of providing a complementary inference, where these two different strands of investigation provide complementary conclusions or interpretations.

The transformative paradigm seeks to better understand the lived experiences of marginalized groups – such as disabled individuals – with the purpose of knowingly investigating and analysing social inequities and imbalance in order to address such issues by bringing about social action or change. It is important to stress that within the transformative paradigm there is no assumption of homogeneity - that all disabled people share the same characteristics - within the research sample, but that the research framework should take cognisance of within-group diversity in terms of degree of disability, functional limitations, lived day-to-day experiences, and access to supports. Indeed it is such a teasing out of different strands of diversity which is the focus of this research study.

Tashakkeni & Teddlie (2003) use the term transformative-emancipatory, to describe an approach to researching individuals who experience oppression or discrimination, which is dependent upon building trust relationships with the researcher(s). Mertens (2003), states that such a perspective informs the work of researchers, by providing increased knowledge and understanding of “diversity within communities and implications for social justice and equity for diverse groups” (2003, p. 69).

### Advantages and disadvantages of mixed methods designs

Where two different MM designs are combined in a research approach there is a tendency for one design to be considered the Primary (P) and the other to be secondary (s). In this study triangulation is considered to represent (P) and expansion represents (s). Greene et al., (1989) argue that whilst an expansion design “seeks to extend the breadth and range of enquiry by using different methods for different enquiry components” (1989, p. 259), such designs are often ‘paramedic’ in practice in that they tend to address failed or problematic scenarios. However they also argue that this approach is under-explored and suggest that a more integrated methodological approach should be utilised. By adopting element of triangulation, complementarity and expansion into this study it can be considered as a multi-purpose design which serves to strengthen the methodological choices, means of analysis and findings.

## Research environment

Internet sites and message board forums are examples of communities of practice and discourse communities, and can be considered as a ‘third space’ ([Wilson, 2003](#_ENREF_2)). Third space theory ([Bhabha, 1994](#_ENREF_1)) views these spaces as “discursive sites or conditions that ensure that the meaning and symbols of culture have no primordial unity or fixity” (1994, p. 37). The internet is an example of a third space that is neither home, school nor work, and thus is potentially emancipatory as individuals with disabilities are free to communicate without the constraints and boundaries of traditional communication models.

It is crucial to gain an understanding of how disabled individuals can engage in communities of practice to support their own learning. Equally important is observation of the ways in which the communicative freedom offered by virtual environments, facilitates a social construction in groups where normal contact is a pivotal difficulty. As more individuals join the message board and post communications, the space expands to become more than just a tool or resource. The website examined in this study operates as a community where members are able to construct a personal and social identity, without risk of rejection, thus providing new possibilities for positioning and identity.

Increased interest and adoption of virtual learning environments, particularly within higher education, might be expected to increase the participation of students from non-traditional groups. Woodford & Bradley (2004) support this argument stating that “being able to share experiences allowed for peer support in the form of emotional discharge. Thus the feeling of isolation was reduced even though they were unlikely to meet or recognise other contributors” (2004, p. 7)

## Research method

Quantitative (QUAN) and qualitative (QUAL) data is collected simultaneously within the same time period, with both sets of data carrying equal weight, and with results converged during the analysis and interpretation stage. A visual diagram of the procedure was constructed by the researcher to illustrate the research design which was delivered in two sequential phases (Figure 1). The rationale for a triangulated approach was that QUAN results would provide a general picture of the research problem, while content analysis of QUAL data would explain statistical data by exploring participants’ views in more depth. The intent was to “validate or expand quantitative results with qualitative data” (Creswell & Plano Clark, 2007, p. 62).

No priority was given to either method of data collection or analysis and both were integrated into the research process from the beginning and were collated and analysed concurrently. The findings of both data sets were converged during the interpretation phase, and integrated into the discussion. Data was collected in two sequential phases: Phase 1 prior to college entry, Phase 2 after completion of the first year of college.

## Web design

Phase 1 was delivered via a website specifically designed for this study as a community of practice ‘Pathways to Trinity’ [www.tcd.ie/pathways-to-trinity](http://www.tcd.ie/pathways-to-trinity). Between April and December 2010 extensive research was conducted into websites that targeted disabled students transitioning from second to third level education, with the purpose of promoting, encouraging and facilitating such transitions. Specifically the search was confined to dedicated ‘one stop’ websites for secondary students as users, as opposed to sites that hosted information leaflets, listed useful links, or provided academic research and government resources. College or university specific web pages were not included and the search was limited to English language sites. The purpose of the web search was to identify best practice in terms of accessibility, content, focus and design. Over a period of six months 36 sites were identified as meeting the research requirements as follows: USA (9), Canada (5), Australia (8), UK (8), NI (2), and the ROI (4). This examination of structure and content informed the final design of the research website.

A prototype transition website was constructed using drag and drop technology at <http://pathways-to-trinity.weebly.com>. This permitted construction of the web site architecture, writing of content and also acted as a repository for submissions by students and academic staff. Whilst the ‘Pathways’ website sits within the College domain, currently there is no facility within the College design framework for blogs or web forums / discussion boards. For this reason the Weebly site was retained as the vehicle for online discussions. This is an open access forum and users are provided with clear pointers with regard to the purpose of the discussion board, anonymity and use of online forums.

## Survey design

Both QUAN and QUAL data was collected using surveys embedded in the web site. Separate surveys were written for students, parents / carers and practitioners within the field of education. ‘Practitioners’ includes professional stakeholders in the educational process such as psychologists, teachers and policy makers. The purpose of each survey was firstly to measure the quantity and quality of information and assistance around the transition process for students with disabilities, and secondly to provide an opportunity for stakeholders to describe their experiences and / or provide opinions.

Adapting an existing survey is efficient in that it eliminates the need for lengthy design and construction. A number of other studies based around web delivery of specific user group e-tools were consulted with respect to the design and delivery of online surveys and use of forums, such as the LEONARDO CyberTraining Project (2010) and the Dyscovery Centre (Kirby, 2010). Questions from existing measures with high reliability / validity from similar studies such as AimHigher (Kinloch, 2006) and NCSE / Project IRIS (McGuckin et al., 2013) were adapted and merged with context questions specific to this study.

The surveys were delivered via a professional SurveyMonkey account which includes the facility to export and analyse numeric data to SPSS. The text analysis feature also permits open-ended responses to be qualitatively analysed to determine insider viewpoints around the transition process, to provide detail that will enhance numeric data, and to examine the importance of elements of the web design and content in terms of accessibility and relevance. Participants were also invited to take part in focus groups and / or interviews. Surveys were piloted to determine ambiguity, clarity and length of completion and some questions were subsequently revised.

## Research sample

Creswell & Plano Clark (2003, p. 212) discuss a range of sampling choices dependent upon MM type. Concurrent studies simultaneously use probability sampling (QUAN) - the probability of having a range of participants from a particular population, and purposive sampling (QUAL) - where the target population is refined due to size and time constraints. This method of sampling has been used successfully in a number of MM studies. Lasserre-Cortez (2006) used probability sampling for the QUAN phase of research (measuring difference in characteristics of teachers and schools) and purposive sampling for the QUAL phase (measuring the ways in which school climate affects teaching performance).

This approach was adopted as the most effective way of ensuring commonality in both sample populations in that one would be a sub-set of the other, and is well suited for investigation within an educational setting. The online surveys and discussion forum in Phase 1 assumed the probability of acquiring feedback from a range of disability types, school staff and practitioners within the field of education / special education. Interviews and focus groups in Phase 2 used a purposive sampling technique.

The target population for Phase 1 of the study was recruited from CAO applicants to Trinity College who had indicated a disability on the application form (n = 936). Email addresses for these applicants were sourced from the Admissions Office after close of applications on 1st February 2011. Stakeholder populations were recruited from disability and community groups (n = 63), national bodies such as the Department of Education and Skills, the National Disability Authority, the Special Education Support Service, and the Association for Higher Education Access and Disability (n = 108), and secondary schools and colleges of further education (n = 185). Letters of introduction to the website were mailed to individual guidance counsellors across the country (n = 463). It was anticipated that a triangulation of perspectives from each of these stakeholder groups would add gravitas to the findings. The website was formally launched on the 4th April 2011 and applicants / stakeholders were sent an email inviting them to access and use the website resources, and to participate in the stakeholder surveys.

Phase 2 of the research began in September 2011. In this phase the target population was identified as TCD entrants (n = 74) who accepted a place under the Disability Access Route to Education (DARE) scheme on reduced points entry, and who were approaching the conclusion of their first year in college.

## QUAN Methods

Independent variables (IV) are identified as the relationship between disability type, school attended, current school year, quality and extent of support, identity of support providers and personal opinions of success / barriers in the transition process. The continuous dependent variable (DV) is identified as successful transition to higher education. Surveys were chosen as the QUAN method of data collection as they are “concerned with the relationship between variables” and not just the distribution or frequency of variables (Punch, 2003, p. 3). Elements that were considered when structuring the survey were the purpose, measurement, and methods of data collection and analysis.

Independent Variables (IV) and Dependent Variables (DV) were identified for each survey as a data set, in order to examine whether transition experiences can be extrapolated for factors that may contribute to the transition experience, such as disability type (DT). The number of IVs was based on the need to avoid overlap or duplication which may lead to incorrect conclusions about the DV. The purpose was to identify a connection between variables that would permit IVs to predict DV. The relationship between IV and DV within the three data sets is illustrated in Figure 2.

According to Punch (2003, p. 35) completion rates in surveys are dependent upon length and construction of the survey, with shorter more succinct surveys more likely to have a higher response rate and thus more validity, as they reduce the possibility of confounding variables such as boredom / fatigue. Validity is concerned with how honest or conscientious the respondents were in providing their answers. Punch (2003, p. 42) suggests that a response rate of 60% could be considered to provide validity.Accordingly, a maximum of 10 questions was applied.

Statistical data on web site traffic was collected through Google Analytics (GA) (Figure 3), which is an enterprise-class web analytics solution that provides added insight into the analysis of website traffic. McGuckin & Crowley (2010) discuss the potential of GA as an effective resource for measuring the impact of academic research output and understanding the geo-demographics of users of specific web 2.0 content. The authors describe the advantages of this statistical analysis tool using as an example the EU-funded CyberTraining project. The findings of this study illustrate the promise of GA as an effective tool for measuring the impact of academic research and project output.

A short piece of html code was inserted into the header and footer of each page of both the ‘Pathways’ and ‘discussion forum websites. Data includes number of visits, page views, time on site, referring sites, search engines and demographics by town / city, country and language. There is capacity to ‘annotate’ key dates and extract tailor made reports for specific date ranges, for example the launch date of 4 April and distribution of letters to guidance counsellors on the 11th April.

## QUAL methods

Open-ended survey questions allow feedback through a comments box. In addition the discussion board / forum space on the website has 5 sections: a general area for questions regarding applying to college, courses etc.; disability related discussions permitting members to share experiences, activities and advice which may be disability specific; disability service supports, in which members may post questions about college supports; transition from school to college, a section for contributing ideas about improving transition practices; and DARE queries specific to the DARE process.

In Phase 1 text from survey comments and forum contributions were analysed using the text analysis tool within Surveymonkey, and were also independently coded and thematically analyzed by the researcher. These categories were not selected on the basis of previous research findings, but were identified from the thematic analysis and the original research question.

In Phase 2 post-college entrants were invited to complete a transition survey and participate in semi-structured interviews conducted by the researcher. Interviews lasted approximately 15 – 20 minutes and included an opportunity for participants to describe / critique their use of the Pathways to Trinity website. Such a free-response method was also used by Luzzo (1995) and is a good opening activity ensuring that participants feel that viewpoints are valid and valued. Participants were asked to describe their experiences of transition from three perspectives: disability, ‘internal’ support (parental / school input), and ‘external’ support (colleges, press, media, events etc). The purpose of this line of questioning was to provide data that could be analysed to determine differences in experiences and perceived barriers within the transition process. The results of the interviews were coded into distinct categories, which were not selected on the basis of previous research findings, but were identified from thematic analysis and consideration of the original research question.

## Ethical considerations

Guidelines provided by the Children’s Research Centre, Trinity College Dublin (Whyte, 2003), stipulate the following principles for consideration during the research process:

* Having a commitment to children’s well-being (Beneficence);
* Having a commitment to doing no harm (Non-Maleficence);
* Having a commitment to children’s rights including the right of individuals to take responsibility for him or herself (Autonomy);
* Being child-centred in its approach to research, listening to children, treating them in a fair and just manner (Fidelity).

Whilst participants in this study were aged over 16 years the above principles were considered as being reflective of good practice. In addition it is advisable for researchers to familiarize themselves with the different ethical guidelines relevant to vulnerable groups produced by different organizations. Thus the Code of Ethics provided by the Psychological Society of Ireland, the British Psychological Society and the British Educational Research Association were also consulted.

An explanation of the purpose of the study is provided in the first two pages of the internet survey, together with consent to participation and ethical guidelines. This is based on best practice for similar internet studies (Kirby, 2010). A letter of introduction and code of ethics are provided on the home page of both the ‘Pathways’ website and the discussion forum, and thus were available for consultation at all times. Participants were assured that data collection and storage complies with The Data Protection Act, 1998, which requires that data should be stored securely, and that computerized data should be password-protected, printed documents should be kept in secured storage, and all data should be anonymized by replacing names with ID numbers or codes (Data Protection Commission Ireland, 2010). Contributors to the discussion forum and blog were reminded that postings were submitted in the public domain; they were advised not to identify themselves or others through user names or content of submissions.

## Role of the researcher

This study was founded on valuing the voice of stakeholders and engaging them in the research process. Barnes (2003) states that research should be rooted within an environment and cultural setting which highlights disabling consequences, should have a meaningful practical outcome and should refer directly to the interests and needs of those being researched; the researcher believes that this study meets these criteria. Important principles that need to be considered are the researcher’s own awareness of privilege in having access to and the trust of parents, students, teachers and representatives from community groups, not to push for information or participation, to accept refusal, to give value to their time, to ensure confidentiality and security of information, not to breach the trust barrier, to listen and not to re-interpret what is said.

The researcher’s involvement with data collection within both phases of this study differs between the quantitative and qualitative processes. In the former the researcher collects data using standardized survey procedures, with data analysis performed using commercial statistical analysis tools. The qualitative process requires the researcher to assume a more participatory role as the researcher is a Disability Officer and provides advice and assistance to stakeholders wishing to engage with the supplementary admissions route into college. This includes engaging with students, parents, school staff, and national experts face to face and remotely. During the data collection procedure, particularly with regard to in depth interviews, the researcher may develop closer and more supportive relationships with some participants, particularly with those who are tracked across the first year of college. All of the above indicates the potential - to some extent - for a subjective interpretation of the data and arguably a potential for bias. However the inclusion of a triangulation of research methods addresses such issues.

## Summary

This paper has presented the methodological framework for a large scale longitudinal study, examining the experiences of students with disabilities transitioning from 6th year of secondary school, to Higher Education. Phase 1 of the study is concerned with gathering quantitative and qualitative data from students with disabilities, their parents or carers, and educational practitioners, prior to, or during the process of transition. This was achieved via a dedicated transition website, a research environment specifically designed for this study, and which was based on the principle of third place communities of practice. Phase 2 of the study collates quantitative and qualitative data from students with disabilities who are nearing completion of the first year of HE. The study was launched in April 2011, and it is anticipated that preliminary results will be available in December 2013.

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