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A Doctoral Thesis Examining Change in a HEI in Ireland: Changing Universities and the Response of Academics to Change in the Dublin Institute of Technology

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Chapter 1: Introduction

Senior management (in university organisations)
have to marry a volatile and unpredictable external environment
with the internal dynamics and trajectory of their own institution.
Watson (2000: p1)

1.1 Introduction

This is a case study that sets out to explore how the unprecedented challenges now facing higher education internationally might best be met in Ireland, in the Dublin Institute of Technology (DIT). This research is set primarily in the engineering faculty and focuses on what is happening as DIT attempts to adapt to a fast and radically changing environment. A literature review and analysis of academic change in higher education internationally is carried out to see how universities elsewhere are changing in order to determine what might be appropriate for DIT, with its own culture and history.

The DIT claims it aims to become an entrepreneurial institution devolving as much decision making as possible to operational units within a structure of accountability. So the first question is can an institute like DIT emulate the entrepreneurial model that is claimed by writers such as Clark (2004) to be successful elsewhere. This research examines the implications of such a change for stakeholders and investigates what they think about this and other university models for DIT. This research is intended to assist the staff and management understand the current realities and meet the challenges ahead. The perceptions held by different stakeholders are presented, interpreted, contrasted and analysed.

What is happening in DIT is significant because change in higher education is a key debate throughout the world at present. Higher education institutes (HEIs) are attempting to respond to the demands of governments and other stakeholders as the costs of higher education escalate due to increased participation rates, as technology changes at an unprecedented rate and as change occurs in the socio economics of fast evolving global economies.

It is argued by Trowler (1998) amongst others that some governments, particularly in the UK and Australia, do not consider that HEIs should be any different to industrial organisations in this regard and so have implemented a more corporate view on higher education. This has resulted in increased institutional autonomy, often using managerialist methods in order to maximise efficiency and value for money. But it is seen in this thesis that increased institutional autonomy can clash with the autonomy of the individual academic and there is a strong argument offered by many writers in the literature review that HEIs cannot be run like businesses. For example Marginson (2007), distinguishes between organisational change and institutional change. Institutes evolve by establishing ways of thought and action, with prevalence or permanence, embedded in the habits of a group or the customs of a people and fix the confines and impose form upon the

activities of human beings. However, King (2004) points out that because universities have different cultures and are less corporate than business organisations and less unified, this means that they are less able to respond to changing environments with the same purpose or speed as companies in the private sector. He argues that universities remain highly subsidised non-profit making HEIs made up of disparate, autonomous, independent minded, often highly unionised, cynical and complaining professionals. King (2004) concludes that governance and management of these HEIs appears to be growing increasingly outdated in many, whilst in others, cultures of collegiality and bureaucracy are being shifted by political manipulation and power plays.

Shattock (2003b) meanwhile highlights the importance of leadership in HEIs and suggests that universities slipping down league tables have failed to recognise the dynamics of a changed environment and have retained hierarchical and conservative decision making processes. He suggests this would be punished quickly in the business world but in academia it leads to a slow decline and a tendency to grasp at short term solutions based on financial stringency. Shattock (2003b) believes that turning around non-research intensive universities is less complicated because the key dimension is student recruitment. He claims that universities are successful because of their teaching and research, not because of their management. But he argues that good managers can facilitate and optimise the conditions in which excellent teaching and research can take place. Shattock (2003a) states that top management in universities is less about spotting and solving problems as about creating an organisation that can spot and solve problems. In other words it is about creating capacity throughout the university to change in this increasingly complex and volatile environment.

1.2 The Purpose of this Research

This case study is intended to contribute to knowledge of phenomena around change in a HEI in Ireland that is rich and insightful. In this case study there are expected to be many unique and interrelated factors that might make generalisation inappropriate at times but many of the questions raised and the collaborative methodology used could have application in many similar HEIs. It is intended that what emerges will help to inform the higher education policy and practice research community about change in a HEI in Ireland and by identifying the contextual environment and cultures in which the case study HEI operates, the research findings may resonate with other similar contexts.

Barnett (2000) writes about the realization of the university in what he describes as, an age of Supercomplexity. He suggests that universities must not just respond to the changing environment but they have to make a full creative contribution. He refers to three challenges for university leaders and these are at the heart of this research:

1. Enabling staff to understand the challenges ahead and to know that these will keep on multiplying and to recognise that there is no stable state and instability will accelerate.
2. To motivate staff to address these changes in the incessant turbulence of academic life ahead.
3. To identify a form of leadership that engages staff but is not managerial. Intellectual groupings must be brought together to understand each other and to engage with one another.

Research Question

The main research question is: how does DIT need to change so that it might become better able to respond quickly and appropriately to the fast and radically changing environment it now faces, whilst fully engaging staff in the process.

This research is aimed at the following audiences:

- Academic researchers involved in the policy and practice of change in higher education, in so far as this research examines the reaction of stakeholders in this HEI to new university models that are claimed to be successful elsewhere and explores their reactions to how DIT should change.
- DIT academic staff – to help inform them better about what is happening inside and outside their institution;
- Senior staff in DIT - to help inform future decision making, particularly with regard to change management.

1.3 The Literature Review

If DIT was a business, it might view the phenomenon of the decline in numbers of traditional students as a threat, because of the reduction in this market, and so make strong attempts to search for new markets. If there was a tendency for numbers of engineering students to reduce as a percentage of the overall student population then this would be viewed by a faculty, who thought like a business, to be a reduction in market share. A company would be required to respond

adequately to these challenges or go out of business. So how would the reduction in DIT's main market, school leavers be addressed? Perhaps by developing new markets by increasing diversity through increasing numbers of overseas, mature, disabled, ethnic and disadvantaged groups. How could the engineering faculty increase market share? Perhaps with a better product and better marketing ? These are some of the questions facing DIT and in order to consider how DIT is doing in this regard and to consider whether it would be more appropriate to operate more like a business in a corporate or perhaps entrepreneurial manner, a literature review of university models internationally is undertaken.

Terms used in the literature such as *corporate* and *entrepreneurial* universities, and experiences in these organisations are examined in the literature review to see how these universities operate and how successful they are. This then raises questions. For example would increasing autonomy for universities conflict with staff autonomy and collegiality? Would the entrepreneurial model of the modern university offered by Clark (1998 & 2004) or the corporate university with managerialist operation provide a solution for DIT? Who would be the winners and losers with such change?

In many parts of the world including the UK, Australia and some parts of Europe university leadership has been strengthened due to the state's withdrawal. Sporn (1999) suggests proponents of these changes argue that the increased congruence between accountability and decision making power, reduces the time taken to make decisions and increases the quality of those decisions. In this way the university can become more competitive. But Sporn (1999) warns that institutional leaders must be aware of the pitfalls of introducing top-down strategies without bottom-up identification by the academic community. Duke (2002) follows up on this theme by asking how far economic rationalism can be allowed to invade the organisational life of the university? DIT is presently under pressure because of a volatile external environment to become more accountable. There is risk to DIT that dramatic change in management might alienate the academic community or at least not provide optimum conditions to maximise the benefits of their input.

1.4 Deficit in Knowledge

There is a deficit in knowledge in knowing how university models apparently successful elsewhere might function in a particular HEI. Fullan (1999) highlights the difficulty of transferring good ideas and change practices from one educational setting to another. He argues that it has become clear that there is often a gap in knowledge in understanding how best practice change which might be successful in one setting can be applied to another setting with a different culture. Practice and

reforms identified in some universities often hide the subtleties and nuances of the setting and the conditions under which such practice and reform may have flourished. One would have to have been in it to understand it. Even if all of this occurred, a change agent would have to understand the conditions of the new setting equally and amend the practices and reform to that setting. This is the challenge set for this research as it addresses the research question of how DIT needs to change so that it might become better able to respond quickly and appropriately to the changing environment whilst fully engaging staff in the process.

1.5 Structure of thesis

This thesis is organised around six chapters. Firstly this introduction which explains why the research is necessary, sets out the context and setting, the positionality of the researcher and how the research will be carried out. Chapter 2 examines the changing external environment for HEIs generally and DIT in particular. Chapter 3 is a literature review of changing universities throughout the world to examine various university models to understand the impact of various types of change strategy for these universities and their stakeholders. The literature review helps identify and clarify research questions, provides a conceptual framework and analytical tool (the McNay model) which is used in interviews of stakeholders and later in the analysis of data. The qualitative methodology is thoroughly examined and explained in chapter 4 and the discussion takes account of a potential audience of engineers who may be sceptical of this type of methodology. Chapters 5 & 6 is the presentation, interpretation and analysis of data from interviews with all levels of academic stakeholder in DIT. Chapter 7 draws conclusions in two parts, firstly externally, for the policy and practice research community; and secondly internally for DIT. Some specific recommendations are offered for consideration by DIT in appendix B.

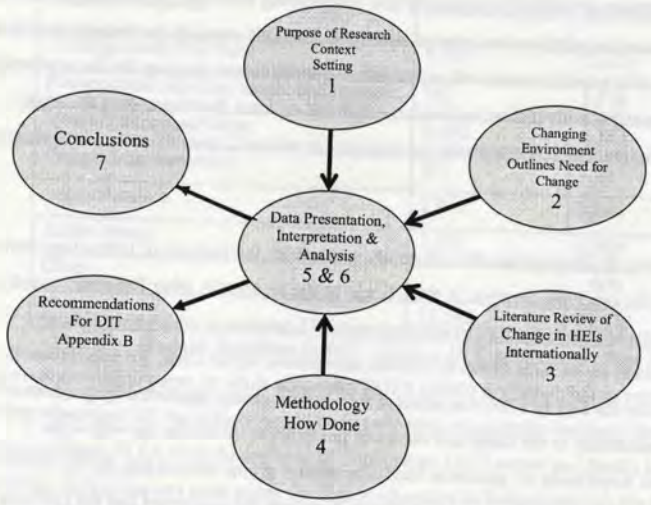

Fig 1.1 Thesis Outline (diagram based on an idea from Robson 2002)

1.6 The Setting

According to Duff, Hegarty & Hussey (2000), the DIT originated in 1888 to provide for the educational needs of society. The DIT began through a workingmen's club and was supported by a cross section of artisan representatives. Before the terms widening of access or stakeholders were first used in education, the DIT sought to provide education for working class students, people in industry, the community and the disadvantaged sections of the population. From its earliest days it provided educational opportunities for women. The Institute pioneered applied education and training in Ireland in a wide range of occupations. Apprentice education began in the 1930s. Duff, Hegarty & Hussey (2000) argue it did all of this flexibly with part-time programmes suited to the needs of students and society, and was supported in this by Dublin Corporation. Early programmes in the Institute were at second level and such was the demand that six vocational colleges were formed during the following 54 years. These colleges then came under the jurisdiction of a Vocational Education Committee and remained so until 1992 when the DIT emerged as a single entity.

In 1992 the six colleges of the Institute were formed into an Institute of Technology. Degree awarding powers were granted up to PhD level in 1997. These developments saw great change within the Institute which was by now divided into a six faculty structure. This move was seen as

more suited to the needs of students and society in a fast growing economy, which was fast moving towards higher education participation rates of over 50%. The DIT states in its strategic plan that its principal function is to provide vocational and technical education and training for the economic, technological, scientific, commercial, industrial, social and cultural development of the state; although it adds that provision is also made for engaging in research, consultancy and development work.

In Ireland the binary divide separates the university sector from the institute of technology sector. This is similar to the pre 1992 situation in the UK and to the systems in other European countries including Germany, Holland, Austria, France and parts of Scandinavia which have similar institutions to Ireland on one side of the divide and universities on the other. An application for University status by the DIT in 1997 was rejected by a review group, appointed by government, on the basis of its immaturity in the range and nature of postgraduate provision as well as the qualifications and experience of academic staff. The review group was anxious for the Institute to enhance its already strong sub-degree and apprentice provision but suggested that the DIT was on a trajectory to becoming a university within three to five years. DIT reapplied for university status again in late 2007 and is awaiting the outcome.

King (2004) argues that it is unreasonable to expect all universities to sustain all functions at an excellent level. He believes universities should focus on what they do best. He argues that increased diversity in the university sector is what is required; not increased convergence with new universities attempting to emulate older ones. The notion of a university focusing on what it does best has a long history in the United States of America (USA), according to King (2004). This diversity was seen as reflecting the wider social needs of an increasingly varied and multi cultural society. Different university types were more responsive in the USA to a changing economy and society. Increased diversity provided students with a greater opportunity to choose a university with a culture and mission that suited them, concludes King (2004).

DIT now describes itself as a multi-level institution with nearly 20,000 students spread across multiple campuses in Dublin City. The President of DIT claims that DIT is presently understudented (not overstaffed) and targets are set for 2010 as shown in fig. 1.2.

Student Numbers	2005/06 Actual	2010 Targets
Undergraduate full-time	9,542	10,828
Postgraduate full-time taught and research	761	1,136
Undergraduate part-time	4,492	5,353
Postgraduate part-time	817	1,365
Apprenticeship	2,860	2,968
Junior Music	1,075	1,300
Other		600
Total	19,548	23,550

Fig. 1.2 Student Numbers in DIT (source DIT admissions office 2008)

The government white paper on adult education DOES (2000) predicted that as numbers applying for higher education fall, the effects would be experienced sequentially by firstly the post leaving certificate colleges PLCs, then the Institute of Technology (IoT) sector and finally by the Universities. School leavers must apply for higher education in Ireland through the Central Applications Office (CAO). The predicted decrease in those applying for higher education has not yet happened (mainly due to immigration) and the total number of school leaving students applying through the CAO have remained reasonably steady. But DIT is feeling the effects of decreasing student interest in an increasingly competitive market. Student numbers applying to DIT at some point on their CAO form as a percentage of CAO applicants has fallen from 65% in 1997 to 28% in 2008 as illustrated in fig.1.3.

	1997	2000	2003	2005	2006	2007	2008
School leaver applications through CAO (total applications)	**59641**	**60319**	**62794**	**60124**	**59485**	**61961**	**63836**
To DIT (through CAO)	**38772**	**33077**	**26753**	**23321**	**21016**	**19556**	**18188**
% CAO applicants with DIT at some point on their application form	**65%**	**55%**	**43%**	**39%**	**35%**	**32%**	**28%**

Fig 1.3 School Leaver Applications to CAO/DIT (source DIT admissions office 2008)

This is a very crude measurement as secondary school leavers can make up to ten choices on their CAO form, and it is not clear from these figures where DIT appears in the student preferences. DIT could be first, last, somewhere in between or even at several points in between. Nonetheless DIT

has attempted to respond to these decreasing figures by increasing diversity and providing places for advanced entry and part-time students who do not apply through the CAO. This supports government policy which is intended to move Ireland towards a learning society. These figures are worrying however because they provide a broad indicator of diminishing school leaving student interest in undergraduate programmes in DIT. It is evident that the higher education sector in Ireland is becoming an increasingly competitive environment.

The Engineering Faculty

This research is set mainly in the Engineering Faculty of DIT because this is where the researcher is based, but this faculty is typical of the other five faculties. The Engineering Faculty has a total of about 5,000 students. Recent major change has seen all programmes in DIT modularised and operating to a semesterised timetable. The engineering faculty successfully accredited six of its eight honours degree (4 year) programmes in 2005/6 and all nine of its ordinary degree (3 year) programmes in 2008 in compliance with new procedures set by the accrediting body, Engineers Ireland. The accreditation procedures implemented by Engineers Ireland are set in accordance with international accords and require that programmes comply with six broad learning outcomes. These include the *softer* skills such as lifelong learning, ethics, teamwork and communications skills, as well as the more traditional mathematical, scientific and project based skills. Although agreements such as these are interpreted, by some such as Felt (2001), as a strategic means of controlling the environment, anecdotal evidence suggests strongly that they are seen by academic staff in the engineering faculty as offering credibility and rigour to their programmes - benchmarking them alongside best engineering programmes in the traditional universities in Ireland and internationally. The result of these accreditations and other pressures has seen significant academic change in the Engineering Faculty in recent years. Nonetheless numbers of traditional school leavers applying for engineering programmes continues to fall, with acceptances for honours engineering degree programmes in Ireland falling from 1,664 students in 2000 to 1,251 students in 2007. (DIT Admissions Office 2008)

1.7 Researcher's Positionality

Before hearing where people stand on issues it is often important to know where they sit, particularly with the methodology used in this research. In other words what baggage do

researchers bring with them? This section is written to enable me as the researcher to be reflexive, but also to provide the reader with some context when reading this work.

The researcher has spent twenty five years in the Faculty of Engineering. This followed twelve years in industry. I was appointed as Head of Learning Development (HoLD) for the Faculty of Engineering in January 2005, around the time when this research began. There is one HoLD in each of the six faculties in DIT. These posts were created in 2004 to help implement theme 1 of the organisation's strategic plan. Theme 1 included:

1. Developing a learner centred paradigm by enhancing the quality of learning, teaching and assessment strategies used in the faculty.
2. Implementing modularisation and semesterisation of programmes and more flexible delivery.
3. Addressing government policy initiatives.
4. Widening access and responding to demographic shifts and changing student types and numbers and improving retention.

The HoLD post in engineering was initially for 12 months scheduled to end in January 2006, but was first extended to August 2006 and then to August 2007. The option of reapplying for a more formalised three year position in August 2007 was not taken up for two reasons: firstly to provide time on a personal level to complete this research and secondly that by being able to flag to colleagues being interviewed that the intention was to return to a lecturing post there would be less suspicion as to my motives for doing this research.

My history as a lecturer and teachers' union member has provided me with insight into the culture of the organisation and the HoLD post provided me with an understanding of the complexities involved in implementing change. Each HoLD post holder is expected to lead change in the relevant faculty. This made me aware of the need for more research in this area and prompted me to begin this research project. This combination of long experience as an academic and union member and then as a change agent provided me with the background and opportunity to address this challenge in a balanced way.

As a chartered engineer most of my background had been in positivist science and engineering traditions. This changed somewhat in 2001 when undertaking an action research project as part of a Master of Science degree in Education. The aim of that research was to bring about academic

change and provide access for mature students to an engineering programme in DIT. That action research project highlighted for me the potential of qualitative research to address relativist research questions.

1.8 Methodology

This is a case study about DIT mainly set in the Engineering Faculty. This is an exploratory study, using qualitative data. The theory emerging from the literature on changing universities is relatively immature and has not yet been tested adequately in HEIs in Ireland. The views of stakeholders are presented, interpreted and analysed. The various types of university model, including collegial, bureaucratic, corporate and entrepreneurial are examined and compared with the cultures, practices and understandings of stakeholders in DIT. A story emerges about DIT and in this story the type of change model best suited to DIT's culture is explored and examined with stakeholders.

Stake (1995) suggests that a case study catches the complexity of a single case and emphasises episodes of nuance in the wholeness of that case. Drawing on this idea of case study and the concept of *Illuminative Evaluation* research, as described by Parlett & Hamilton (1972), this research is intended to let people in DIT see what is happening in their changing environment. It becomes clear from the research findings that stakeholders interviewed want to have a say in the direction of DIT. Stake (1995) suggests that qualitative researchers seek to discover the multiple views in a case, the multiple realities. There are conflicting views and opinions and the culture of the way thing are done in DIT is important and impinges upon many aspects of this research. In order to reflect these diverse views twenty individual interviews and a focus group interview took place. Interviewees represented all of the major stakeholders affected by academic change including students, technical staff, central services and all levels of academic staff up to and including the President of DIT. The intention was to consult and collaborate with stakeholders about what is happening at this time of unprecedented change.

Fourth Generation Evaluation as described by Guba & Lincoln (1998) is used in chapter 6 to address the substantive issue. This seeks to address the concerns and issues of all stakeholders and not prioritise the opinions of any one group.

Moelsby (2007) suggests that implementing major change successfully is best done by showing vision, achieving consensus, acquiring the required skills, providing incentives and resources, and

establishing a realistic action plan. This is best illustrated in Fig 1.4 below and shall be referred to as the Aalborg Change Model.

Having these components						Results in
Vision	Consensus	Skills	Incentives	Resources	Action plan	**Change**
	Consensus	Skills	Incentives	Resources	Action plan	**Confusion**
Vision		Skills	Incentives	Resources	Action plan	**Sabotage**
Vision	Consensus		Incentives	Resources	Action plan	**Anxiety**
Vision	Consensus	Skills		Resources	Action plan	**Resistance**
Vision	Consensus	Skills	Incentives		Action plan	**Frustration**
Vision	Consensus	Skills	Incentives	Resources		**Treadmill**

Fig 1.4 Aalborg Change Model

The underlying thinking in this research is that the type of change required in DIT might be best achieved by having all of the above components in place but this research is merely intended to be the beginning of a process of change. In this regard it is an illuminative evaluation project and at this stage the views of stakeholders will be heard and presented.

Strategies are undertaken to neutralise researcher bias and ensure the adequacy of this research. These are described in the methodology chapter. The research questions are relativist with no right and wrong answers. The intention is to explore what Schon (1995) describes as the messy subtleties and nuances of everyday life and human interaction. This is an exploration in the workplace milieux and is intended to inform and provide options of university operational models for DIT and to contribute to a wider debate about the relationship between different university models and their effectiveness in different institutional cultures.

Chapter 2 Changing Environment

For higher education, the only constant is change...
There is a necessity to transform ourselves
to meet the challenges of a rapidly changing world
Hodge (2003: p1)

2.1 Introduction

This chapter examines the external environment applying to DIT. It sets the scene for chapter 3 and explains why DIT must change as an organisation. The aim of this chapter is to illuminate or shed light on the WHY of change. During my contract position as Head of Learning Development in DIT, staff often asked me why we needed to change. This chapter is intended to answer that why, and lay a foundation for chapter 3 which examines the how of change internationally. Chapter 2 reviews the changing Irish economy and changing higher education landscape and the ways in which this is affected by globalisation. It examines the emergence of the learning society in recent years in Europe and in Ireland, the increasing cost of higher education and the consequential increasing demands of government and society. It looks at changing students, academic change and changing academic roles for staff and how all of this will affect DIT. Finally the table provided in fig.2.3 summarises the changes in the external environment, analyses their driving forces and assesses their likely impact.

2.2 Globalisation and the Irish Economy

In 1987 the Economist magazine characterised Ireland as the poorest of the rich, alongside an image of a beggar on the street. This portrayed Ireland as the poor relation in the European Union. The 1990s saw an incredible turnaround in the Irish economy. An economy burdened by debt, with crippling levels of taxation, a poor enterprise culture and relatively low participation rates in higher education was turned around into a thriving economy. By 1997 the Economist proclaimed Ireland as Europe's shining light (see fig. 2.1). The *Celtic Tiger* is the name given to this thriving Irish economy with record levels of growth, averaging 9% between 1995 and 2001 according to ESRI (2004). Unemployment in late 2007 was about 5% (though rising in 2008) but this is compared to 15% in 1993. According to World Bank Development Indicators (2007) Ireland was in 6th place in the world with regard to Gross Domestic Product (GDP), just ahead of the USA. Direct taxation levels are amongst the lowest in Europe and the participation rates in higher education are amongst the highest in the world at over 55% for the school leaving cohort according to the ESRI (2004).

Fig. 2.1 Economist Magazine

Ireland was the second most successful EU country at attracting foreign investment in 2002 (20% GDP) according to the Central Statistics Office CSO (2003). A move from agricultural output to cutting edge manufacturing techniques, particularly in IT and pharmaceuticals as well as increased employment in services was facilitated by Ireland's third level educational sector. In 2003 the services sector accounted for 66% of employment, industry accounted for 28% and agriculture only 6%, ESRI (2004). The Industrial Development Authority (IDA) (2006) reported that the total output value of manufacturing in Ireland in 2005 was 250% higher than in 1995. But the IDA point out that Ireland is now concentrating on high productivity around science, technology and engineering. Basic operatives are being replaced by technicians and engineers and although there is still a demand for general operatives, the IDA (2006) emphasise that this must be supported by a strong engineering base.

> A global economy requires governments to develop a new approach, not only to trade and fiscal policies but also to structural policies. As the scope for state intervention in the economic sphere has become more and more constrained, policy makers have increasingly had to shift their attention to the residual factors in the production function, principally technology and human capital. Tuijnman (2003:p 472)

Ireland was one of the first European countries to grasp the economic importance of education according to the OECD (2004). The then Taoiseach (Irish Prime Minister) Mr. Aherne pursued this theme at the World Economic Forum in Davos, Switzerland in January 2007 when he said that " skills & education are at the heart of the changing agenda in Ireland with seven out of every ten school leavers going on to higher education in one form or another at some stage," Department of the Taoiseach (2007). He explained that as Ireland has undergone unprecedented rates of growth and change, higher education has been seen as a key driver in this economic growth. Mr Aherne

went on to suggest that Ireland's success was mostly attributable to its own unique system of social partnership that generated robust negotiations but also robust results, (Department of the Taoiseach, 2007).

Since 1987 innovative three-year agreements between governments, unions, employers and other stakeholders have delivered wage moderation underpinned by tax policy and coupled with a commitment to industrial stability. The initial agreement in 1987 gave the stimulus and following agreements provided convincing enough results to ensure that partnership agreements continued uninterrupted.

Sustaining Progress (2003) and Towards 2016 (2006) are the national partnership agreements in which the institutes of technology were required to implement Partnership IT, an organisational change project. *Towards 2016* (2006) emphasises the need to improve management and leadership in the public sector. Although it is only recently that implementation of Partnership IT has begun it is examined as part of this research.

The DIT in its strategic plan claims that the threats to the Irish economy are most clearly evident from emerging countries in Europe and Asia which have good education systems combined with much lower production costs. The Irish government seeks to position Ireland at the top end of the value chain in industry and services, through the creation of an innovation or knowledge society founded on the production and exploitation of intellectual property. In this context, the changing needs of industry, the workforce, society, and students paralleled with a widening diversity of student intake are factors that are considered in this research.
Towards 2016 (2006) contains 140 pages and deals with matters such as the macro-economy, infrastructure, environment, social policy, employment rights (and compliance) as well as pay and the workplace. There is a section on Education & Training which deals with the National Skills Strategy, lifelong learning and enhancing access to education and training opportunities. It states that among the principles underlying enterprise, innovation and productivity, that:

> Improving investment in human capital and adapting the education and training systems, includes emphasis on upskilling those already at work and those who wish to return to work, including older people and those whose need for learning is greatest, and focusing on increasing education participation and completion at all levels and in all sectors. (p 16)

The previous national partnership agreement in 2003 agreed a special pay increase for the public sector to bring pay levels in line with, what was seen by public service unions as, the thriving

private sector. This *Benchmarking* pay agreement resulted in an increase for all teachers of 11% over and above the national pay agreements. This was one of the highest awards and came after much industrial unrest and disruption from second level teachers. The level of this award was heavily criticised by employers and other groups but was overwhelmingly accepted by the teachers' union membership. As part of this agreement it was agreed by the unions for the public service that the public sector would become more efficient through the introduction of the Partnership Programme for Change, *Partnership IT*. The first stages of Partnership IT were implemented in DIT in 2004/5 and as part of this all programmes (previously called courses) were modularised and semesterised.

2.3 Higher Education and Globalisation

There is ongoing debate about whether higher education should be an economic instrument or whether it should be used for realizing human potential and dealing with social justice. The arguments for a competitive economy in the new global market are put forward by many governments to justify numerous national policies for multi-skilled, flexible and more productive workers according to Taylor, Rizvi, Lingard & Henry (1997). They argue that the OECD use this as the context for recommending education policies that lead to convergence of policy within western economies.

To consider the role of higher education in the present context requires us first to ask what is globalisation? Is it that the world has become smaller due to improved transport systems and better communications facilities? The media and technology empires of Rupert Murdoch and Bill Gates are examples provided by Taylor, Rizvi, Lingard & Henry (1997). Is it related to the fact that we can use a plastic card to withdraw cash from our own bank account from any one of thousands of machines in any western economy to buy a hamburger with the same ingredients tasting exactly the same in thousands of outlets worldwide? King (2004) differentiates between internationalisation and globalisation. Internationalisation refers to exchanges between countries, across borders and has occurred for many centuries. Globalisation is about exchanges that transcend borders and which occurs instantaneously by electronic transfer of communications and financial consideration.

So is globalisation due to the developments in information technology that have allowed access to the World Wide Web by anybody who has an online computer? Taylor et al (1997) conclude that it is the interdependence of all of these factors and their interplay that is transforming the world into a neighbourhood. It does not impinge on all nations in the same way and is not in itself either a good

thing or a bad thing. It does not suggest the whole world has become capitalist but positions are adopted in relation to the Capitalist West. Taylor et al (1997) example China committed to a communist ideology but moving towards market liberalisation, and the Asian Tiger economies who retain more control over their financial system and trading arrangements than Australia. They conclude global responses are conditioned as much by ideological and political factors as by the imperatives of globalisation.

So what is the effect of globalisation on education? One aspect is students from all over the world coming to Ireland's universities whilst students from Ireland study abroad? Levin (2006) suggests foreign students studying in America can contribute to peace by, if not becoming ambassadors for America's cherished values, at least understanding them. But this is contrasted by Taylor et al (1997) who wonder whether it is appropriate for Malaysian business students to be taught Japanese and American work practices. They wonder if Total Quality Management, teamwork, decentralization and flexibility are the ideal of organisational behaviour for the Malaysian economy?

Taylor et al (1997) researched the relationship between the OECD and education policy in Australia. They examined how the OECD has been able to steer policy in Australia towards certain ideological preferences. The OECD has no prescriptive mandate, it describes itself as a think tank for discussion, research and analysis. It frames its policy on education in a commitment to a market economy and a pluralistic democracy. Education is seen within the OECD as legitimated by its contribution to economic growth but this is not narrowly interpreted. For example labour market disadvantage for social groups was addressed, albeit in economic terms, in relation to the damage likely to be incurred by a society that does not fully utilize its human resources. There is generally a rhetoric of justification for a tighter connection between the educational systems and the world economy, according to Apple (1992), with potentially dehumanising effects of economic ascendancy in education. It is the economy that is in the ascendancy dictating what goes on in society he suggests and wonders is this not the tail wagging the dog? Watson (2007) suggests that learning has a wider contribution to make. It develops the spiritual side of our lives, promotes active citizenship and develops a civilised society. It strengthens the individual, the family, the neighbourhood and hence the nation. It helps individuals fulfil their potential and opens doors to a love of music, art and literature.

But Taylor et al (1997) suggest that what is referred to as public policy is often what governments decide to do and this is often on the basis of trying to appease as many pressure groups as possible. In Ireland, this would seem to reflect a compromise between the pressure groups through the national

partnership agreements, but Taylor et al (1997) warn that pressure groups do not all exert equal power. So whose voice is seen as authorative and whose values have most influence? Big business exerts a disproportionate influence on governments, according to Taylor et al (1997) and international groups, such as the Organisation for Economic Co-operation and Development (OECD) may also exert undue influence.

Rhoades, Maldonado, Ordorika & Velazquez (2007) refer to their being little alternative to a market based economy in a post-Soviet world and for higher education this means there is little alternative to academic capitalism. The reality it seems is that higher education is increasingly directed by governments at helping make their economies more competitive and none more so than Ireland's.

2.4 Learning Society

As a small nation, what happens in Ireland has been heavily influenced by the European Union (EU). Marginson (2007) points out that the Lisbon Treaty, with the aim of making the EU the most dynamic, competitive, sustainable knowledge based economy in the world relies heavily on its capacity to produce highly educated people for its firms to be engaged in a continuous process of innovation. Though the Lisbon Treaty was rejected by Ireland in a referendum in June 2008, the above aim was not a factor in its rejection. Education policy was mentioned by those canvassing with regard to its funding but its supporting economic policy was not seen as a problem by any stakeholders in Ireland canvassing for or against this referendum.

King (2004) supports the argument that governments are motivated to increase investment in higher education so as to build the knowledge base of their economies in order to sustain economic development. The World Bank supports governments in this strategy and highlights knowledge as being one of the most important motors of economic growth in emerging economies. The World Bank argues that universities have pivotal roles in developing learning societies, according to King (2004). The *Towards 2016* agreement is expected by the social partners in Ireland to lead to the development of a national skills strategy which will map out the needs of the Irish economy to 2020 with a particular emphasis on qualifications up to National Qualifications Authority of Ireland (NQAI) level 7 (ordinary degree – see fig. 2.2.)

NQAI level	Award
10	Doctoral Degree
9	Masters Degree
8	Honours Degree
7	Ordinary degree
6	Higher Certificate

Fig 2.2. NQAI award levels in Ireland

Expanding participation in education has become a leading theme of policy debate. In 1997 the OECD arranged a conference of its education ministers under the title *Lifelong Learning for All*. Policy statements from many governments emphasise that the learning age must embrace as wide a range of the population as possible. This is necessary for countries who wish to compete in the new globally competitive knowledge based economy.

> According to the European commission the EU has set as its goal, to become the most competitive economy in the world by 2010. The decision to nominate 1996 as the European Year of Lifelong Learning was an outcome of the 1993 Delors White Paper: Growth, Competitiveness and Employment...This white paper concludes that human resource development and hence, education and training, investment and participation is the key issue to improving European competitiveness which, in turn, is essential to economic and social well being across the community. Chisholm (1996)(p 1)

The Irish economy is increasingly struggling to compete in a global economy with low cost production in lower wage economies. The so called *Celtic Tiger* has resulted in wage costs in Ireland rising to one of the highest in the world. As a result of this Irish industry is no longer able to compete in many areas of manufacturing where it previously thrived. Blue collar jobs are migrating to lower wage economies. This is an important lesson with regard to how Ireland deals with its economic health; as Minister for Enterprise, Trade and Employment, Michael Martin TD suggested in that ministry's annual report DETE (2005) the *Tiger* has found a resting place in Ireland but will only stay as long as we remain competitive. To ensure competitiveness the Irish economy must compete at the upper end of the value chain.

Skilbeck (2001) suggests that for advanced economies, the challenge for educational policy makers is to promote the conditions for a learning society. He believes the new world of work requires a learning society so that workers can accumulate transferable skills for the changing market. Education and learning becomes a lifelong process as the needs of society and organisations

change. The lack of fit between labour force qualifications and the needs of industry in a fast evolving economy must be addressed by the educational sector. As Tuijnman (2003) puts it, the skill mix that was suitable for the industrial society is no longer adequate for the knowledge economy.

But Felt (2001) believes coupling education too closely to the labour market carries risks. This is supported by Ozga (2000) who argues that whilst governments seek to use education as a means of improving prosperity and economic productivity, there is a social justice of education not just with regard to improving life chances and opportunities, but also as a means of enriching and enhancing the business of living. She is critical of using education to service the economy alone and argues that this has led to less inclusive and more selective procedures. She highlights the capacity of the middle class to benefit disproportionally from social policies and education and indeed this is an ongoing argument in Ireland since the advent of *free* third level education in the 1990s. Clancy in DOES (2001) provides convincing evidence that high and middle income families have derived most benefit from free higher education with the marginalized remaining outside tertiary education. Reference is sometimes made in the press and on TV to better off families moving their educational war chests from third level to fund private secondary education so as to enable their children do better with their leaving certificate points and gain access through the CAO to highly sought after programmes (e.g. Medicine) which require high leaving certificate points for entry. This might seem to support an argument for the reintroduction of fees but great care must be taken with such a change. For example Ozga (2000) cites the example of the re-introduction of fees in higher education in Australia in 1988 because their abolition in 1974 had not, it seemed, led to a more egalitarian social mix in the student body. She warns that there was no longitudinal study done, only snapshots from particular institutions at moments in time from which a particular interpretation was drawn which suited government and other powerful interests.

2.5 Reduced Per Capita Funding and Increasing Demands

Marginson (2007) argues that GDP per capita has increased in all OECD countries since 1995 but public spending on higher education per student has decreased in seven of the OECD countries for which information is available. In the UK and Sweden the drop in public funding has been fully compensated by an increase in private funding. In this regard the then UK Prime minister Tony Blair (Newsweek Aug 21st 2006) referred to the capacity of those who benefit from higher education to earn substantially more than their fellow citizens whose taxes pay their fees, and hence

he justified the return of fees in the UK. At the time of writing, debate continues in Ireland about the re-introduction of student fees. Ozga (2000) argues that educational systems designed along economic lines require strong interventionist and prescriptive policies from government supported by strong managerialist policies at the level of the institution. She concludes that there has been a significant strengthening of state control of education in England.

> If corporate speak sets the rules for policy discourse....the economizing of education means that economic interests dominate...and that requires that what counts for knowledge is redefined for practitioners as well as for students. Education becomes the acquisition of the appropriate mix of skills...and these concepts have been deprived of tension or debate. They are taken to be self evidently good....In these conditions, learners and teachers are denied the opportunity to develop an orientation towards understanding a given social problem rather than achieving technical success.
> Ozga (2000: p 56/57)

Coaldrake & Stedman (1999) describe the values and ideals underlying academic work in universities as evolving into an elite activity during a time when there were relatively small numbers of academics and students, high levels of professional autonomy and relatively little financial support or interest from government or industry. Academics had permanent employment, authority derived from the high academic standing they enjoyed; they had control over academic matters, autonomy in research and disdain for what were seen as lesser tasks of administration and management.

Things began to change with demographic shifts, and as governments began to view higher education as an economic driver of social and economic development. Growth in higher education in many countries, including Ireland, was facilitated by the development of a binary system of education with universities concentrating primarily on research and Institutes of Technology intended primarily to teach. In 1965 third level student enrolments in Ireland were 19,000 compared to student enrolments for 2003 of 143,271. Total state expenditure on higher education rose from £559 million in 1995 to €1,683 million in 2006. The total cost of education in Ireland has roughly trebled in eleven years from €2590 million in 1995 to €7662 million in 2006 - all figures from DOES (2008).

With increased public expenditure comes pressure for universities to be accountable. University governance is changing worldwide. Even bastions of collegial governance such as Oxbridge are seeking more executive authority according to King (2004). The bodies of dons or fellows are now following other universities in the UK and US to address the new challenges in this age of Supercomplexity, as King (2004) describes it, and reducing public funding per student.

Ramsden (1998) suggests academia faces an uncertain future of relentless variation in a more austere environment. There will be more competition for resources and reduced public funding combined with greater accountability and a changing student population in terms of numbers and composition. New challenges around new forms of learning, assessment, and roles for teachers in higher education are all part of the mix.

> Ireland suffers from historically low levels of average educational attainment and makes inadequate provision for adult and continuing part-time education. The universities have served elites and professional leaders but have been less successful in widening opportunity. For the years ahead a considerable enhancement of human capital is necessary both in quantitative and qualitative terms, (Skilbeck, 2003:p15).

If Ireland is to develop as a learning society, then evidence provided by the OECD (2004) and ESRI (2004) suggests it is necessary to provide access to higher education for the large numbers of people who missed out first time around during times of elite participation rates. This is necessary not only from an economic perspective, but also from the perspective of providing for a fairer society. In this context, terms such as recognition of prior learning (RPL) encompassing accreditation of prior learning (APL) and accreditation of prior experiential learning (APEL) as well as credit accumulation and transfer (CAT) are part of the new discourse in higher education that DIT recognises need to be addressed. These new terms it is argued by Duke (1992) can sit comfortably in a flexible learning environment with modular programmes offering choices in mainstream courses with options and electives to pursue topics of interest to mature students. In other words more flexible learning and widening of access. However these changes can effect teaching schedules, resource allocation, programme documentation, quality enhancement and other things. Evidence provided by Duke (1992) refers to the *gatekeeping and bouncing* duties of admission tutors needing to change in order to support adult learners who want to earn and learn at their own pace. This type of learning might be seen by some of these gatekeepers, who are enculturated by different practices during different times, as second rate or for the second class, according to Duke (1992). Some of the difficulties for DIT might be that some of the gatekeepers may be academics who established their values in traditional universities during times of elite participation rates and have little empathy for the larger numbers of non-traditional students now appearing. Additionally even where managers in DIT support such change this can cause pressure on already diminishing resources. These are areas which will be addressed in this research.

By international standards Ireland has been slow in widening participation to mature students, students with disabilities and socio-economically disadvantaged students. In the foreword to the report of the action group on access to third level education in Ireland (DOES, 2001), the chairperson Dr Cormack MacNamara states:

> It is surely ironic that while there is universal agreement that increased participation rates at third level has been central to the success on the economic front, the fact that whole segments of our society are so significantly underrepresented has not, as yet, sufficiently impacted on our consciousness. Yet the future growth and stability within our society will be determined in large measure by our success in confronting just that issue. (DOES, 2001, p 4)

An analysis of OECD data indicates that in Ireland, only 20% of 45 to 54 year olds have attained tertiary education compared with 40% of 25 to 34 year olds, (OECD, 2005) . Many of these older workers have contributed to the highly subsidized higher education sector through their taxes so that, in many cases, students from better off families could gain higher qualifications; and in more latter years so that higher education could be expanded into a universal system serving predominantly school leavers. Many of these people have never benefited themselves from higher education and now find themselves in industries with rapidly changing needs or indeed in some cases they are out of work. This raises questions for Irish society, higher education and DIT as to whether there is adequate opportunity for such people to upgrade their qualifications so that they can play a part in our new Irish knowledge economy and reach their full potential in our learning society.

The Irish Government White Paper on Education, DOES (2000) set targets for participation by adults of 15% by 2005 and 25% by 2015. This was agreed as part of the partnership programme *Prosperity and Fairness* (2000). This was the national agreement prior to *Sustaining Progress* (2003) and *Towards 2016* (2006) and was seen as contributing to a fairer society. According to the Central Applications Office CAO(2003), the participation rate of adults in 2003 was 8% and this was amongst the lowest in Europe. Historically the single focus of increased participation in Ireland has been on school leavers. Yet government policy has been clear on the need for diversification for a nearly a decade. The White Paper, Learning for Life (2000) argued against front loading of education and recommended pathways for progression, credit accumulation, diversification of provision and flexible route ways. The 1997 Universities Act identified a role for the universities in promoting lifelong learning through the provision of adult and continuing education. The Qualifications Act (1999) is explicit that procedures be implemented by programme providers for access, transfer and progression. It also requires these procedures to be published.
Higher education in Ireland has been slow to respond in this regard.

Coaldrake & Stedman (1999) argue that the increasing burden of higher education on the taxpayer has also led to increased demands for increased accountability through the introduction of quality assurance, strategic planning and professional management. Students are now more concerned

about flexibility and convenience, access to high quality resources, learning whilst earning, quality of teaching, fairness of assessment, good quality formative feedback, and the status and quality of their awards.

Sporn (1999) points to the new phenomenon of accreditation in Europe strongly connected to issues of quality. She examples the European University Association (EUA), based in Switzerland, as one example of a body who offers services through peer review to universities internationally. The DIT underwent a quality review by the EUA in 2006. This created pressure for change in DIT. For example the
quality assurance procedures used for the evaluation of teaching were flagged by the EUA as requiring change and it recommended a shift from quality assurance to quality enhancement procedures. This was intended to result in ongoing improvement to programmes and modules. Schools and faculty now face the duties associated with annual reports, program reviews, school reviews and research reviews.

In the Engineering Faculty of DIT, the requirements for engineering programme accreditation have also changed recently. Ireland is signed up to the Washington Accord and the accreditation procedures in Ireland are similar to ABET (Accreditation Board for Engineering Technology) accreditations in the USA. This means there is mutual recognition of the academic qualifications for Professional Engineer in Ireland, the UK, the USA, Canada, Australia and many other countries.

This research examines the increasing demands on academic staff of all levels and how DIT is responding to the demands for change.

2.6 Academic Change

With regard to teaching, increased diversity of student intake has resulted in the admission of students with more varied academic ability, socio-economic background, age, race and other differences. This creates new challenges for academic staff. Changes in information technology have led to increased pressure for new learning and teaching methods. The shift in emphasis to student centred learning has also placed in juxtaposition, according to Coaldrake & Stedman (1999), the values of academics who see university education as being about disciplinary study and critical thinking, against the values of students, many of whom see the acquisition of credentials (in the least problematic way) as the key to successful career advancement.

As the DIT reframes itself to become a university, there is greater pressure on academic staff to do more research. Ramsden (1998) points to the difficulties this created for staff in the polytechnics before the demise of the binary system in the UK. He suggests that staff who were strongly committed to teaching were left feeling marginalised. Coaldrake & Stedman (1999) point out that the intertwining of research and teaching was well entrenched in the minds of university academics in the dual funding system that operated in Australia and the UK. Universities were funded at a higher rate than colleges on the understanding that university academics were expected to be both teachers and researchers. With the removal of the binary divide
there, funding for research has risen significantly while resources for teaching are reduced on a per student basis. The result is greater differentiation in universities with those who do not obtain funding increasingly finding themselves to be teaching larger numbers of students. Coaldrake & Stedman(1999) examine the argument put forward by some researchers, such as Ramsden (1998), that teaching and research is mutually reinforcing or symbiotic. If teaching is not research based then it is not university teaching they suggest, and that students must be inspired to be scholarly; they conclude that this is not possible if the teacher is not similarly committed.

In contrast Coaldrake & Stedman (1999) observe that others might judge that as long as there is research within the department or school and accessible to students, then this presents a suitable scholarly environment for students, and that it is really only final year and post graduate students who need to be considered in this regard. There is also a differentiation between scholarship and research. There seems to be broad consensus they suggest that research involves the creation of new knowledge, sustained inquiry and the publication of results. Scholarship on the other hand is broader and incorporates the interpretation and study of what is already known. The skills and personal traits needed to excel in teaching do not necessarily coincide with those needed for research. They refer to an old analogy used by Barnett (2000): a composer does not have to be a performer and a performer does not need to be a composer. Coaldrake & Stedman (1999) conclude with reference to empirical evidence and an example. The empirical evidence they refer to suggests that there is an overwhelming finding that there is no discernible relationship between available measures of teaching and research. An example they provide is of the University of Phoenix who employ most of its academic staff on a contract basis to teach. University of Phoenix sees research as an overhead cost that is not central to its mission.

As the DIT strives to become a university it will be very important for it to establish its mission in terms of teaching and research. It has made clear that it sees itself as a multi-level institute providing for every level from craft education to post doctoral research. But how it intends to

achieve this, is still not entirely clear. From the perspective of the engineering faculty, the point made by Coaldrake & Stedman (1999) about professional disciplines is relevant. They point out that whilst in some disciplines, university students expect their lecturers to be involved in research, there was more emphasis on practical experience and relevance when it comes to the professional disciplines. They suggest that some students resented the fact that research duties of lecturers compromised their interaction time with lecturers. So perhaps it is not a question of research versus teaching but more of a journey to find a more rounded scholarship suited to the needs of all of the stakeholders.

Skilbeck (2001), in *The University Challenged,* reviews trends and issues with respect to Higher Education in Ireland. He argues there must be a shift of orientation in universities, less the teacher as a source of canonical knowledge and more the student as a learner and a client; less the enclosed college and more the wide-ranging enterprise. He recommends student centred learning, where the teacher facilitates the student's learning. He believes good teachers in the 21st century will inspire students to reach their full potential using whatever method of learning is best suited to them. Teachers will provide direction and support but will no longer be the only or even the main provider of information. It will not be essential to cover every section of a technical syllabus, Skilbeck contends, if the graduate has the skills to research information for themselves.

King (2004) warns that the development of rich interactive electronic material requires time, energy and skills that are not often available in universities. Taylor, Rizvi, Lingard & Henry (1997) warn against making assumptions about a universal ethic – a notion based on the assumption that all people are essentially the same. At the heart of a student centred learning paradigm is the assumption that all students are different and learn in different ways. With the shift to mass participation there are more students to teach who, as Ramsden (1998) puts it:

> are no longer a gifted and motivated academic group, capable of surviving the bleakest of bad teaching, but more like school students in their range of ability and the corresponding demands they place on our time and energy (p 15).

Ramsden (1998) also highlights the fact that these students now expect and demand more from teaching staff who they sometimes see as lacking enthusiasm and providing poor support. Ramsden (1998) argues that student learning is not changing sufficiently to enable learners reach higher orders of learning such as understanding, application and integration. He asserts that lecturers must get out from behind their lecterns and make a radical shift to supporting students in their learning.

King (2004) believes teachers need to think deeply about their new roles and structure of their programmes. Is their expertise the possession of research knowledge, is it the ability to identify learning materials, is it to filter information and present it for different cohorts of students, is it to inspire students to reach new heights in their own development or is it to provide a human dimension and support to help students develop their capacity, including the cognitive and social processes of education, or more likely, is it some combination of all of these factors?

2.7 Changing Students

So what are the problems faced by modern students in a more diverse system? According to Naidoo (2007), at the heart of Bourdieu's work is his desire to expose higher education as a powerful contributor to the maintenance of social inequality. Habitus is a concept described by Bourdieu (1998) as the disposition of people that generates perceptions and practices within their social space that maintains social inequality. Higher Education now frequently includes students who are the first of their extended families to enter third level education. Many of them and their extended families may never have even entered a university building in their lives. These students face particular problems and need extra support in college to help them get through the difficult transition to third level education. It must be recognised that some of these students do not have the supportive academic environment at home that more traditional students may have had. There are many other changes in students in the modern university.

Modern students are very different to earlier generations of students in the way they learn according to Sjoer & Veen (2005). They refer to the NET Generation of students who scan screens with ease and consider learning as a playful activity where they are challenged to solve puzzles and ill-defined problems. The NET generation who they also refer to as *Homo-Zapiens* are skilled and experienced with Information Computer Technology (ICT) in the solving of these problems but are poor at memorising facts, particularly from books. They refer to the clash of the ICT inside culture and outside culture. The insiders they describe as digital natives who have learnt by doing as they have grown up as part of the NET generation. Outsiders consist of digital immigrants who have adapted to ICT but have not grown up in this world. Presently, most curricula in DIT are designed by digital immigrants (older academic staff) for digital natives (younger students). This raises questions about modern curricula development and adds to the challenges for academics.

Similarly Knowles (1984) has written widely about the needs of adult students being very different to the needs of school leavers. For example he argues that it is very important for educational

providers not to alienate adults from the learning process. The goal of adult learners may not be the acquisition of credentials but the acquisition of education and skills for the new learning society so that they can confidently take their place in modern organisations. For some, it is more important for them that they build their capacity to play an active part in a changing society. Whilst Knowles' views are contested by Ann Hanson in Hanson & Raggatt (1996), amongst others, it is not intended to debate this point here but merely to highlight that the student population is changing and their abilities and needs are changing also. In the same way students with disabilities are also increasing. According to Fraser (2005) a study undertaken by the Australian Bureau of Statistics in 1998 estimated that up to 19% of Australians had a disability and a 1980s survey in the UK suggested over 14% of the adult population had a disability. Fraser (2005) also refers to the Federal Discrimination Act of 1992 in Australia which states indirect discrimination can occur when a condition or requirement is imposed, which may be the same for everyone but which unfairly excludes or disadvantages people with a disability. There are more students with disabilities entering DIT and of course this adds further to the diversity of student mix, which in itself is a good thing, but all of this adds to the challenges for academics, managers and DIT.

2.8 Demographics and Implications for the Engineering Faculty in DIT

Reducing numbers of traditional students applying for engineering programmes is hitting engineering faculties hard. This is in spite of valiant efforts by the Irish government to reverse this trend through funding initiatives to encourage more students into engineering and science. Exacerbating this for the DIT is that traditional school leavers tend to favour the older universities over the Institute of Technology sector, see fig 1.3.

The percentage of acceptances for Engineering Honours Degree programmes in Ireland has declined from 8% in 2000 to 4.5% in 2007 with an overall decline in numbers for these level 8 programmes from 1664 students in 2000 to 1,251 students in 2007, (DIT Admissions Office, 2008). This provides special challenges for the engineering faculty which demands an innovative and imaginative response. Whilst decreasing numbers of traditional students poses a threat to some programmes, this also opens opportunities to widen diversity further.

The Faculty of Engineering appears to have responded to some extent. Numbers on level 7 Ordinary Degree programmes have increased, but as these students graduate, many seem to be lost to DIT as they head for other universities to pursue level 8 and level 9 programmes. This is despite the fact that many of these students claim to want to continue their education in DIT. Other

universities in Ireland and the UK seem to welcome them because it increases their student numbers at the higher end of their programmes. The response of the engineering faculty in DIT in this regard is examined as part of this research.

2.9 Summary of the Changing External Environment for DIT

In this chapter we have examined the external environment for higher education. The intention was to shed light on why change is needed in HEIs generally but in particular for DIT. The affects of globalisation, shifts in the Irish economy and the pressures this brings for DIT are considered. The evolution of the learning society, with changing students and changing academic roles, especially in engineering are analysed. All of this and increased costs of education lead to demands for change. Fig. 2.3 summarises the changing external environment for DIT in early 2008 and analyses the changes in driving forces and their likely impact. There are some key drivers which are likely to have significant impact. In particular, increased demands from government for widened access, improved quality, greater efficiency and more flexibility are likely to impinge significantly on academics. Changes with regard to governance, institutional autonomy and funding are likely to effect the lives of all in academia in Ireland in the near future.

Fig 2.3 Changing Environment Summary and Analysis

Changes in External Environment	Driving Forces	Likelihood of Increase in Driving Force	Likely Impact
Changing Irish Economy	Globalisation	High	Movement to higher end of value chain and demands for better qualified workers.
Changing society needs Movement towards a learning society	Increased demands from government for alignment of higher education with needs of economy & society.	Very High	Changing students with varying age, ability, socio-economic background and in some cases with disabilities.
Greater competition from Universities	Demographics	Very High	Reduced teaching hours/posts Closing of departments /schools /faculties/Institutes that do not respond adequately.
Increased participation rates for school leavers	Societal Demand	Medium - 55% presently; Estimated to Reach 67% by 2016. Overall numbers of first time entrants to remain fairly static (HEA)	Increasing costs to government and taxpayer leading to demands for greater efficiency and more flexibility from higher education.
Changing needs of students	More varied student ability learning strategies & techniques	Very High	Students will opt for programmes which use modern L & T methods and take account of their needs and provide transfer and progression in a flexible, modular format with focus on the learner
Student centred learning and move away from teacher focused didactic delivery	WWW & increase in use of ICT	Very High	Changing Academic Roles and Facilitation of student learning and increasing use of formative assessment
Increased demands for better service and greater efficiency	National Partnership Agreements	High	Pressure for change on academics and academic managers
Change in governance and greater demands on universities to become more entrepreneurial	Increased autonomy for universities with increased pressure to raise funds	High	Possibly less individual academic autonomy and increased pressure for activities that raise funds
Increasing demands for quality enhancement	University designation and Demands of govt., HEA, NQAI, EUA review etc…	High	Diversion of academic time away from academic issues to quality and other procedures
Changing needs of Professional institutions & industry	Changing accreditation criteria and more varied student learning outcomes as business faces change	Low	Much change has already taken place in curricula in the Engineering Faculty of DIT
Institute becomes a university with changing academic demands	Stakeholders appear to want DIT to become a university	High	More emphasis on research and generation of knowledge and less on teaching & students