LEARNING DISABILITY, CONSTRUCTION AND THE HUMAN CAPABILITY FRAMEWORK

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ABSTRACT

This paper is concerned with dyslexia and other learning disabilities and problems amongst people wishing to enter, and progress in, the New Zealand construction industry. It considers the overall national context, the adequacy of our responses, and potential ways to improve the situation in our sector. The Human Capability Framework provides a theoretical basis for discussions on issues related to this. The paper concludes with a series of recommendations for both further study to address gaps in our knowledge, and also practical measures to improve equality of opportunity and help address opportunity mismatches.

Keywords: Learning disabilities, construction, human capability framework

THE SITUATION

Dyslexia

According to the Dyslexia Foundation New Zealand (2009) there could be over 70,000 children, and surprisingly one out of ten people living in New Zealand suffering from dyslexia. Dyslexia has many levels, some write backwards or miss linking words, and for others words seem to move around, giving different versions of meaning each time they are read.

Early diagnosis

There is still a stigma to overcome. Sue Beechy from Te Tari Awhina (Learning and development) at AUT University has concerns that students are not keen to be diagnosed as having learning disabilities like dyslexia, as they perceive that this might be seen as having a weakness, affecting their education or job prospects. (Sillis 2012)
Others at a disadvantage

Apart from those with dyslexia and recognised learning disabilities, others could also benefit from an overhaul of how training, education and communication is approached in the construction sector. People with different learning styles and new residents with English as their second language also have comparable issues. Those in the practical trades from overseas struggling with the language are quite possibly doubly challenged. They would have difficulty with an overly academic approach in their own tongue.

The impact of dyslexia, learning disabilities and disengagement

Youth unemployment

Work in the dyslexia field is often focussed on ‘removing disabling barriers that in mainstream education that have an impact on adult life in the form of unemployment and poverty’ (Macdonald 2012).

Credential Inflation combined with recessionary pressures intensify problems transitioning to the workforce for people who have struggled with gaining academic qualifications through the school system. The raising of the entry level requirements beyond the levels actually needed as a result of the over-supply of people with academic tertiary passes, is being felt in all sectors.

Youth imprisonment rates and dyslexia

The pathways linking dyslexia, disengagement to crime are well established (Macdonald 2012).

According to the DFNZ, research from the USA, UK and Sweden is indicating that between 30% to 52% of prisoners are dyslexic. That compares to 10% of the population as a whole, and so over-representation by a factor of 3-5 times.

At around $90,000, a year to house an inmate the dyslexic sub population are probably costing the taxpayer alone between $230 million and $400 million a year (NZ Corrections Department 2012). These figures do not also include the 31,000 sentenced to community programs, not locked up.

This poses the fundamental question that if English, as a second language is a social or cultural learning disability, as in McDonald (1987).

Mental health

The Ministry of Health (2012), reports that in 2010, 522 youths committed suicide. 2,825 tried to commit suicide unsuccessfully, with males the worst affected, and Maori two and a half times over-represented. Females aged 14 to 19 years and males 20 to 24 years old
being the most likely to self-harm. The Young New Zealanders Foundation (2013) started in 1997 under a different name, with the police working with, and offering support to, young people, sometimes after attempted suicide. They teach practical skills and mentor young people to try and help build a foundation that’s often missing.

From personal experience we believe that young people with learning disabilities are in particular need of these services and help as they often have missed out during the period of available mainstream education. The ideal of course, as discussed in this paper, is to intervene at an earlier stage so that the benefits of education, in the broadest sense, are experienced by all.

**Disproportionate numbers in the construction industry**

Jason MaClintock (personal communication), Operations Manager of the Certified Builders Association of New Zealand INC, suggests that a large number of their members struggle with theoretical documentation, and that dyslexia and learning disabilities play a part in this. He feels that literacy tends not to be a strong point for many builders. There is a lack of enthusiasm for written material. In general they would seem to cope with the aid of computers; however these skills often required improvement.

Traditionally it has been seen as an area of employment at entry level that accommodated those that had not excelled academically. It also may be seen to appeal to people preferring a practical skills-based occupation, irrespective of their academic achievements, or lack of.

Whatever the reasons, effective systems to build learning are especially crucial if a significant proportion of entrants will not thrive succeed using existing programmes. Mismatches will be more serious than in a sector with lower levels of representation.

**THE HUMAN CAPABILITY FRAMEWORK**

Back in 1998 the Department of Labour (as was) here in New Zealand stated its purpose (DoL 1998) as linking ‘...social and economic issues to enable people to develop and utilise their potential for the advantage of themselves and New Zealand’. At this time the Department was developing the Human Capability Framework. The purpose of which was to provide a structure for investigating and charting strategies for achieving stronger matches of Capacity (Human) with Opportunity (Jobs). The HCF is used in ways that extend more broadly than that, but fundamentally it is a model for Supply and Demand. It has very real relevance to the issues of learning problem and the construction sector.
Firstly because of the over-representation, and secondly, due to increasing concerns about the practical relevance of our educational/training systems. Determinants of the availability of apprenticeships naturally sits on this framework too. Supply-demand models like this are used internationally in this way (Toner 2003).

Figure 1. Below shows the HCF extended from a simple supply-match-demand model to reflect the influences that sit behind capacity and opportunity in the construction sector. Capability is the resultant state, of capacity meeting opportunity. The capability of a sector is therefore seen as the quality and extent of the match, not simply the number of jobs advertised and the number of people seeking work.

![Diagram of Human Capability Framework](image)

Figure 1. Human Capability Framework showing influences. Based on the original version by the Department of Labour (1999).

This appears to also be the case in other practical sectors such as agriculture (Tipples, 2004).

In 2010 Lowry and Elkin identified a ‘severe matching failure’ as having emerged in the dairy sector. Skills, knowledge and attitude all falling short of that required by employees. While shortcomings regarding the use of initiative and attitude more broadly were highlighted, a ‘failure to value to practical skills’ by those designing the training/educational programmes was also noted in the earlier work by Tipples (2004) and reiterated by Lowry and Elkin.
SOLUTIONS

The Figure below shows the Human Capability Framework showing a summary of influences and other interactions relevant to the construction sector drawn from this study.

A new method of education is required to give role models and mentors, prerequisites early in a student’s life. To develop kinaesthetic, hands on learning, based on the tools and methodology of actions; as passed down through the years. Ultimately to create competent trades people over a period of time, and for a more balanced society in New Zealand.

Specific areas include the following.

**Earlier diagnosis**

Students wanting to enter an industry that is hands-on, physical, creative, and has a high degree of job-satisfaction may well be attracted to the construction industry. However the industry is increasingly one where there is a focus on needing to be also capable academically. Under-diagnosis of dyslexia and other LD could be contributing to our problems. It is essential to appreciate the full costs of not tailoring the education and training programmes to the actual people wishing to enter the sector.
Opportunities for early practical experience

It is questionable how much assistance there is available to a student in tertiary education, such as when the ITO offers manuals for training in competition for tertiary training?

Looking at the gateway program offered to school pupils by the Building Construction ITO (BCITO 2008) there is little attraction in comparison to the UK City and Guilds system (1991). The latter is based on 85% practical learning. The approach provides opportunities to a broader cohort of students therefore.

More user-centred design of teaching & learning resources

The literacy issue is recognised increasingly as a barrier to productivity gains in construction (Seadon 2013). How much of the problem stems however, not from the inabilities of the students or trainees, but from poor design of learning opportunities that fails to match their characteristics?

The author of this paper [Atkinson] discussed literacy and trades training in 2010 and 2011 with the Minister for the Department of Building and Housing (DBH). This was due to concern in the sector at how resources were evolving: away from the traditional tried and tested format of images with supporting text, to text with occasional images. This material is essential for the sector. Producers are such as DBH, BRANZ, and the Industry Training Organisation (ITO).

Tertiary education providers at Unitec in Auckland were Wilson (1979) worked, is a good historical example of how technical books can use written and graphical information in combination. Material presented can be read, secondly studied as a detailed drawing, or thirdly be taken in combination. The reinforcement of the same messages via different media helps raise the proportion of students that achieve comprehension - whether affected by learning disabilities or not.

Support for individual learners

Beechy (Sillis 2012) suggests that a student with learning disabilities will undoubtedly have to put far more effort than a typical student. And if a student has not been diagnosed until tertiary education they will need support. Eccleston’s (2011) findings support the concerns.

Training providers are required to be able to offer assistance with English skills. However in 2010, a five year review of the National certificate in carpentry program for Unitec, government intervention was asked for by the panel to deal with on-going issues between the Unitec and the ITO. Ultimately this was viewed to be a conflict of interest, by the BCITO restricting the industry (Eccleston, 2011). In 2013 the BCITO refused
representation for people with learning disabilities, in the current trades’ reviews.

English requires special teaching skills not always present to trade teachers or employers.

**Theoretical learning in a context built via practical experience**

The author (Atkinson) questioned the Minister for DBH in 2007, around trades training and what was being taught to apprentices. As a result Atkinson was invited to visit and review the facilities at Unitec, MiT, Regent training and Onehunga Building School.

The views of those interviewed were that carpentry and joinery should be joined together as disciplines, and more focus placed on working on the hand tools on the joiner's bench in the early part of trades training for both to provide fuller context for the theoretical learning later.

Tom Atkins a Maori carpentry teacher at the Regent training in New Lynn, has a joiner's workshop alongside the classroom. So when students had done the practical exercises, theory was then addressed in the context of the subject. This integrated learning was somewhat missing at the other training providers.

**Overseas integrated models**

In the UK under the City and Guilds (1991) system, carpenters and joiners train together for the first year learning about safety, tools, wood and machinery before choosing site work or the workshop.

**How much practical, how much theory?**

A survey of 12 builders was conducted by the author in 2012, and overwhelmingly trades were viewed as learned best with a heavily (85%) practical bias. This contrasts to the more academic approach promoted by current providers. It should be noted that the builder should not be the one left to teach the practical skills alone. High standards of qualified trade’s people are gained by taking the best qualified from the industry

**Alternative programmes of learning**

**School age**

Onehunga building and construction school in Auckland offers students practical hands on approach, operating for about eight years now with the support of local organisations and business. 15 students this year are building a four bedroom house in the school grounds. Each year the school has students that have social, cultural, learning disabilities to disengage them from formal education schooling. Reported about the school in the Tool magazine (2013), boys that problematically may have
not blossomed, under formal education, are now blooming to become future trade’s people of New Zealand. David Eastwood, head of the Onehunga building school reports in the Shed magazine (2012) about Zane Penno a past dyslexic student, being disengaged by subjects at school to the point of hating classes. How the building school gave him some direction and know Zane at 22 years old, recently qualified after completing his carpentry apprenticeship is now enjoying working in the industry.

Offenders

Northland Corrections Department (Corrections Dept 2013), are working to reduce re-offending of inmates by giving practical skills. 11 inmates have gained a national qualification while building a house in the prison grounds, working with tertiary educators and community groups. For a foundation before the young offenders are released back to the community. This is very much on the lines of the Onehunga building school project reflecting maybe more at schools will greatly reduce the requirements of the Corrections Department, not to mention courts and police wasted time.

Learning styles and communication in training.

According to Nicol (1940) a UK-style City and Guilds training of apprentices was employed here after the turn of the 19th century in New Zealand.

“To provide a mode of entry into the learned professions is still right, proper and most important function of a secondary school” and “When the technical high schools forget this purpose and begin to disport themselves in purely academic fields, they are untrue to their principles. Everything that tends to diminish their concern or lessen their respect for the short course pupil is, in the present writer’s opinion, harmful” (Nicol, 1940. P, 235).

Still in both writers’ opinion, a valid point today. While no one would want to see children pigeonholed into low-achievement academic streaming at a young age that deprived them of opportunities, the demise of practical learning appears to have come at a cost. For those with learning disabilities or that simply favour kinaesthetic learning styles, the practical workshop environment provides hard skills, and also an essential experiential context for theoretical development.

CONCLUSIONS

Literacy and numeracy issues are increasingly cited as a barrier to productivity gains. This paper suggests that poor design of learning opportunities contributes in a large part to failings not only in productivity
but in lost personal development and thereby social progress on a wider basis. This poor system design impacts from an early age and the pathways into crime instead of creative and worthwhile roles in the employment market are well described internationally.

While as an industry we can do little to influence primary and secondary education policies, we can at least get our own house in order.

REFERENCES


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