

Griffith Institute for Educational Research

Learning and Social Change

Literacy Unbarred: Investigating
the literacy and numeracy levels
of prisoners entering Queensland
correctional centres

Dr Jean Searle
Ms Chris Schluter
Mr Ron Cox

Griffith Institute for Educational Research



Learning and Social Change

Literacy Unbarred: Investigating the literacy
and numeracy levels of prisoners entering
Queensland correctional centres

Dr Jean Searle

Ms Christine Schluter

Mr Ron Cox

About the Griffith Institute for Educational Research

The Griffith Institute for Educational Research builds new knowledge and practice in the area of learning and social change through innovative research and development. The Institute leads research into major issues related to learning, focusing particularly on issues impacting on learning in a rapidly changing world and how individuals and communities can be assisted to learn to engage effectively with social change.

The Institute commissions a series of working papers each year around important and topical issues related to learning and social change.

About the Authors

Dr Jean Searle is an Adjunct Member of the Griffith Institute for Educational Research, Griffith University and former Director of the Queensland Centre of the Adult Literacy and Numeracy Australian Research Consortium (ALNARC). Current research projects include issues surrounding 'at risk' young people and learning, and the initial assessment of adult offenders on remand and on entering correctional centres. Other research interests include adult and workplace literacy, the history of adult literacy, social and e-literacies, flexible delivery and academic literacies.

Ms Christine Schluter is the Education Contract Officer, Career Employment Australia Inc. Christine has worked with disadvantaged clients for 15 years, ten of which have been researching and implementing literacy programs in the vocational and education training sector. She has been co-ordinating literacy programs in prison for the past five years and is the Queensland representative on the National Research project to develop a literacy screening tool for Corrections across Australia.

Mr Ron Cox is Director of the Australasian Corrections Education Association (ACEA) and Manager, Adult Education and Vocational Education and Training (AEVET), Offender Programs and Services, Queensland Corrective Services.

Literacy Unbarred: Investigating the literacy and numeracy levels of prisoners entering Queensland correctional centres



Foreword

It is with pleasure that we publish the fourth working paper for the Griffith Institute for Educational Research. Traditionally, prisoner induction and risk assessment processes have been conducted as a basis for individual case plans on entry into correctional institutions. While prisoners have been viewed as a target group for vocational education and training (VET) since the 1990s, poor literacy and numeracy skills have proved to be a barrier to the success of both vocational and rehabilitation programs. In order to address this issue, in 2002 a literacy and numeracy screen was developed and implemented as part of the induction and risk assessment process for all offenders entering the Remand and Reception prison, the Arthur Gorrie Correctional Centre. This screening process has led to several positive outcomes for Queensland Corrective Services.

Robyn Jorgensen (Zevenbergen)

Director

Acknowledgments

The research team wishes to acknowledge the contributions of Professor Joy Cumming, Dr Peter Grimbeek and Ms Karin Behrins, as well as some financial assistance from the former Centre for Learning Research, Griffith University. We also acknowledge the assistance of Corrective Services Queensland and that of the Career Employment Australia teachers and staff.

Contents

Introduction	1
Literature review	1
Literacy and numeracy of prison populations	1
Measuring literacy	3
The Adult Literacy and Life Skills (ALLS) survey	4
The National Reporting System	5
ANTA Innovative Literacy Project	6
Project outline	7
Aims and hypothesis	7
Research questions	7
Method	8
Results	10
Background and limitations	10
Evaluation of the Communications Indicator Tool	10
Interviews	12
Data analysis and results	12
Summary	21
Discussion	23
Conclusion	25
Recommendations	25
Bibliography	26

Tables

Table 1: Age of prisoners on remand	12
Table 2: Mean age for NRS Literacy Levels - male	13
Table 3: Mean age for NRS Numeracy Levels - male	13
Table 4: Comparison of literacy levels.....	14
Table 5: Comparison of numeracy levels	15
Table 6: Total levels of literacy and numeracy by correctional centre ...	15
Table 7: Disability Category + Literacy Level cross tabulation - male ...	16
Table 8: Disability Category + Numeracy Level cross tabulation - male	17
Table 9: Level of schooling	17
Table 10: Level of schooling attained by male offenders.....	18
Table 11: Level of schooling attained by female offenders.....	18
Table 12: Category of Schooling + Literacy Level cross tabulation - male	19
Table 13: Category of Schooling + Numeracy Level cross tabulation - male	19
Table 14: Category of post school - males	19
Table 15: Category of post school - females	20
Table 16: Post-school qualifications across all correctional centres.....	20

Introduction

Traditionally, prisoner induction and risk assessment processes in Queensland have been conducted as a basis for individual case plans. Under the Access & Equity Policy (DETIR, 1997), individuals in prison were identified as a target group for vocational education and training (VET). Further, results from a literacy and numeracy survey of prisoners in Queensland (Cox & Carlin, 2001) indicated that a greater percentage of prisoners had literacy and numeracy needs compared with the general population. It was recognised that VET training would not only provide prisoners with employability skills but would also increase self-esteem. In addition, literacy and numeracy skills were acknowledged as being fundamental to the acquisition of vocational skills. As a consequence, a key component of the prisoner induction program is that the literacy and numeracy levels of offenders being placed on remand within the Queensland correctional system are assessed using the literacy and numeracy Communications Indicator Tool (CIT).

Literature review

Literacy and numeracy of prison populations

In June 2001 there were 4517 adult (i.e. aged 17 and older) prisoners in Queensland correctional centres, more than twice the number in 1991 (ABS, 2004). The imprisonment rate was highest in 1999 (177 adult prisoners per 100 000 adults) before dropping to 163 per 100 000 in 2001, with Indigenous imprisonment rates of 1765 adult Indigenous prisoners per 100 000 Indigenous adults in 1999. In June 2001 only 6% prisoners in Queensland were female. The percentage of prisoners who were on remand in 2001 was 20.1% compared with 9.5% in 1991.

While research conducted in New South Wales (Black, Rouse, & Wickert, 1990) indicated little difference in overall literacy ability between prisoners and the general population, a similar survey of 1000 offenders within correctional centres in Queensland, conducted by the Queensland Corrective Services Commission (1996), indicated that the literacy levels of prisoners were lower than those of the general population (ABS, 1996), significantly so for Indigenous offenders. Results of a similar survey, the National Assessment of Adult Literacy (US), conducted in 2003, indicated that literacy levels among the U.S. prison population were also generally lower than among the general population, with levels for various minority prison populations lower than for Caucasian inmates (Justice Centre, 2007).

Following earlier calls for the prison population to be targeted as in need of vocational education and training skills (DETIR, 1997), as well as a demonstrated need to improve literacy and numeracy levels, more recent policy documents have called for greater integration of language, literacy, and numeracy (LLN) skills within vocational education and training (VET) provision (Australian National Training

Authority [ANTA], 2003). There is also recognition of the need to develop LLN skills in the adult population across sectors, and to ensure provision in the setting where the target population resides (Beddie, 2004), in this case, correctional institutions.

As a result of the 1996 survey in Queensland, the QCS developed a model for the offering of VET and literacy programs within correctional centres (Cox & Carlin, 2001). One of the principles of the Queensland Corrective Services (QCS) under its Offender Management Policy (2001) is to provide appropriate VET and personal development programs for all offenders with a view to rehabilitation into the community upon release (Golding, 2002). This is in line with recommendations from the Byrne (1990) report, which also advised on the need for adequately funded adult literacy provision in Queensland prisons.

However, as Semmons and Oldfield (1999) and Watson, Nicholson, and Sharplin (2001) pointed out, while there is general awareness of the importance of adequate literacy and numeracy skills, the impact of low levels of literacy and numeracy on participation in VET is largely unmeasured in Australia, and estimates are based on anecdotal evidence. A few studies in the U.S. focusing on literacy and numeracy provision in prisons indicate a decrease in the rate of recidivism and improved individual benefits but do not refer specifically to participation in VET (Hull et al., 2000; Feinstein, 2002; and ProLiteracy America, 2003). However, according to Hunt (2003), a lack of clear measures or measurement systems limits the ability to quantify its impact. The more recent *Literacy Behind Bars* (Greenberg et al., 2007) report from the US is more promising. This report highlights the importance of teaching reading and mathematical skills alongside vocational skills. In 2000, 56% of state prisons and 94% of federal prisons in the U.S. offered some form of vocational education and training. Of those prisoners participating in VET programs, 44% received assistance with reading, 44% with writing, and 63% received mathematics instruction. Further, those prisoners who had previously received VET instruction achieved higher levels of document and prose literacy.

In Australia, the key objectives of the *National Strategy for VET for Adult Prisoners & Offenders* (ANTA, 2001) included access to VET and support measures for all prisoners, hence the move in Queensland to offer VET programs alongside literacy and numeracy provision. However, as Callan (2004) points out, employment outcomes upon release remain limited due to poor levels of education and low levels of the “hard” skills of literacy and numeracy. This is particularly so for Indigenous prisoners. As a result, the implementation plan (Callan, 2004) recognises that a first step towards VET access for prisoners must be an initial assessment of educational needs. Similarly, Noonan (2004) also argues for more effective educational needs assessment as part of the reception process.

Another concern in Australia are the relatively low levels of literacy, and particularly numeracy, of the younger age group. Sometimes characterised as ‘failed learners’, they often leave school early knowing they have low level literacy and numeracy skills, which may result in low levels of self worth (Grant, 1989; Rahmani, Crosier, & Pollack, 2002). These reports accord with studies of young offenders in the U.K.

(Hurry, Brazier, Snapes, & Wilson, 2005) in documenting the ongoing effect of undermining self esteem and dignity, and in possibly providing reasons for an unwillingness to take on further learning, particularly in adult literacy classes. While the pilot study being reported is concerned with adult offenders, it should be noted first that early 'failure' may affect learning as an adult, and second that these reports point to a potential issue of low literacy and numeracy levels in young offenders not yet in the adult system.

Overall, there is a concern that low literacy and numeracy levels may be seen as barriers to participation in VET, and, along with other systemic barriers to learning, may underpin poor attendance patterns, failure to complete, or lack of motivation.

Although literacy programs are being offered as part of the solution, no one really knows the extent of the problem. This pilot research study sought to provide some quantitative data in order to gain a literacy/numeracy profile of offenders as they are placed on remand, to better provide for their learning needs.

Measuring literacy

Literacy is a socially contested term. We can choose to use this word in any of several different ways. Each such choice incorporates a tacit or overt ideological theory about the distribution of social goods and has important social and moral consequences. (Gee, 1990: 27)

As Gee (1990) points out, the subject of literacy has social, political, and educational implications. In fact according to Christie (1990:2) there is "virtually no area of contemporary life in which literacy is not involved in some way, and it is imperative that all people understand the many kinds of literacy which collectively have such an impact on their lives".

Since the end of World War II the United Nations Educational, Scientific, and Cultural Organisation (UNESCO) has been at pains to quantify, explain, and remedy the problem of 'illiteracy'. Initially seen as 'developmental', the early UNESCO literacy campaigns and the World Bank literacy programs were based on the premise that a literate population would increase productivity and hence the economic development of the country. These UNESCO campaigns were based on an 'autonomous' model of literacy (Street, 1984), that is, a narrow, culture specific literacy practice which assumes unidimensional progress towards 'civilisation' or economic 'take-off', a movement from non-literate to literate. This view of literacy presumes that the skills of reading, writing, and enumerating are context free, are universal in time and space, and generate consequences for cognition, social progress, and individual achievement, in other words, that they are generic skills.

In a recasting of the 'literacy as autonomy' model, literacy and numeracy are again being seen as tools that are essential to gain access to employment and training. Now, adult literacy and numeracy assessments are constructed as technical

methods of achieving practical purposes, that is, on the macro scale, to benchmark population statistics against those of comparable nations, and locally, to determine who needs what literacy or numeracy. Hence, as governments have become more interested in accountability, performance, and international benchmarking, statistical analysis of survey and assessment data has led to a number of studies in Australia and overseas (ABS, McLennan, 1997; OECD & Statistics Canada, 2000; Bynner, 2002), the most recent of which is the Adult Literacy and Life Skills Survey (Statistics Canada & OECD, 2005; ABS, 2007).

In contrast to the above representations of literacy, Street (1984) proposed an 'ideological' model in which reading, writing, and enumerating are viewed as meaningful cultural practices, learnt in specific cultural contexts. From this perspective, uses of literacy and numeracy cannot be generalised across cultures, cannot be isolated or treated either as 'neutral' or as 'technical'. In fact, given that the meaning of literacy depends upon the social and cultural context in which it is embedded, and that the particular reading and writing practices taught depend upon social structures and the role of educational institutions, there cannot be a single, autonomous 'literacy'. It would be more appropriate to refer to multiple 'literacies'.

The question of what literacy is privileged is of particular importance in correctional settings. For example, Bayliss (2003) argues that in the U.K. a highly instrumental approach to learning is taken within prison education systems. Thus de-contextualised basic skills are favoured over the teaching of literacy and numeracy as integral to all prison activities, including VET provision.

An issue therefore, when considering assessment in adult literacy and numeracy, is what concept of literacy or numeracy is privileged by the design of the assessment?

The Adult Literacy and Life Skills (ALLS) survey

The recent ALLS survey was designed to identify and measure literacy that can be linked to the social and economic characteristics of people both across and within countries. As with the earlier, IALS survey,

...all the stimuli in the assessment were real items drawn from the countries taking part... (Items) reflect the diversity, reality and challenge of everyday life (Carey, Low, & Hansbro, 1997:14)

However, despite the use of 'real-life' texts and tasks to assess how people function in society, the assessment designers are actually promoting a normalised view of literacy. This view assumes that these items transfer equally across cultures and also accord with social practices across gender, ethnicity, or socio-economic status (Payne, 2006). Further, a series of cut-off points are imposed on the data to indicate the acceptable level of functioning in society – Level 3 being the agreed level required for entry level employment and training.

The ALLS survey provides information on knowledge and skills in the following four domains:

1. Prose literacy: the ability to understand and use information from various kinds of narrative texts, including texts from newspapers, magazines, and brochures.
2. Document literacy: the knowledge and skills required to locate and use information contained in various formats including job applications, payroll forms, transportation schedules, maps, tables, and charts.
3. Numeracy: the knowledge and skills required to effectively manage and respond to the mathematical demands of diverse situations.
4. Problem solving: goal-directed thinking and action in situations for which no routine solution is available.

Also included were questions relating to health literacy.

For each literacy domain, proficiency was measured on a scale ranging from 0 to 500 points. These continuous scores were then grouped into 5 skill levels (only 4 levels were defined for the problem solving scale) with Level 1 being the lowest measured level of literacy. The relatively small proportion of respondents reaching Level 5 often resulted in unreliable estimates of the number of people at this level, so skill Levels 4 and 5 were combined (ABS Summary Results released 28/11/2007). To assist with interpreting the results, Level 3 is regarded by the survey developers as the "minimum required for individuals to meet the complex demands of everyday life and work in the emerging knowledge-based economy" (Learning a Living: First results from the Adult Literacy and Life Skills Survey', available from Statistics Canada's website (www.statcan.ca)).

These issues not only informed the evaluation of the literacy and numeracy initial assessment tool, known as the Communications Indicator Tool (CIT), but also provided a point of comparison when analysing the data from Queensland correctional centres. However, it should be noted that the CIT was developed purely as an indicator of a literacy or numeracy need, such that the individual might receive literacy or numeracy provision while on remand. More detailed diagnostic assessments would take place if and when sentenced.

The National Reporting System

The National Reporting System (NRS) (Coates, Fitzpatrick, McKenna, & Makin, 1995) is a framework that allows for the reporting of levels of English language, literacy, and numeracy competence (Levels 1-5) across six social aspects of life. The NRS differs from the previously mentioned surveys as it is not an assessment tool, neither do the five levels have a direct correspondence with the IALS and ALLS levels; rather, the NRS provides a common set of outcomes as a reference point for a range of providers. Thus, for example, language, literacy, and numeracy

curriculum experts could map existing curricula against the NRS statements of competence, and assessment outcomes could be reported using the NRS, as required for Commonwealth funded language, literacy, and numeracy programs. In a report on the piloting of the NRS, Cumming (1997: 8) stated "The general findings of the project are that the NRS has been found to provide a valid framework for reporting adult language, literacy and numeracy outcomes across a range of sectors, contexts and learners".¹ In line with the current practice of reporting the outcomes of language, literacy, and numeracy programs offered in the correction centres using the NRS, the results of the screening using the CIT are also reported using the NRS levels.

ANTA Innovative Literacy Project

In 2004, the Australian National Training Authority (ANTA) funded a national project to develop a national offender literacy assessment tool. The project was based on the implementation plan for the National Strategy for the Vocational Education and Training of Adult Prisoners and Offenders in Australia (ANTA, 2001). It was argued that having a reliable and consistent way of assessing and recording prisoner literacy levels would arguably allow for the collection of national data, trends and needs, and interstate comparisons. However, at a meeting in 2005 of state and territory prison education managers and prison based literacy co-ordinators to discuss literacy assessment practices, it became clear that the various states and territories have very different structural, industrial, funding, and operational approaches to these matters. Western Australia, for example, has as part of the prison induction process an impressive holistic LLN assessment model for all prisoners conducted by teachers trained in LLN assessment. In other jurisdictions, induction processes were undertaken by custodial services officers and not everyone used the National Reporting System to record results. Queensland was the only state to be implementing the literacy and numeracy screening of prisoners on remand. Thus it was deemed to be important to examine how effective this screen was in identifying prisoners in need of literacy and/or numeracy tuition.

¹ The NRS has recently been reviewed and a new Core Skills Framework will soon be introduced.

Project outline

The pilot study was undertaken to provide data indicative of the literacy and numeracy profiles of offenders, when they are placed on remand. It was anticipated that this data would better inform planning for the provision of vocational education and training (VET) and personal development programs in Queensland correctional centres. The study involved:

The evaluation of the literacy and numeracy initial assessment tool (known as the Communications Indicator Tool);

The profiling of the literacy and numeracy abilities of all adult offenders placed on remand in selected correctional centres in South East Queensland, over a period of one month, using the Communication Indicator Tool.

The analysis of the resultant data to provide indicative comparative profiles of the prisoners on remand at a point in time.

The collating and reporting of data as a basis for interviews with educational staff at each correctional centre regarding implications for adult literacy and VET provision.

Aims and hypothesis

The aim of the pilot study was to provide an indication of the literacy and numeracy (L&N) profiles of male and female offenders who are placed on remand in selected correctional centres in SE Queensland. It was hypothesised that there would be significant differences in L&N profiles and needs across different cohorts based on age, gender, ethnicity, and educational background.

Research questions

1. What are the literacy and numeracy (L&N) profiles of offenders who are placed on remand in selected correctional centres in SE Queensland over a one month period?
2. What are the differences, if any, in L&N profiles between male and female prisoners?
3. What are the differences, if any, in L&N profiles between Indigenous and non-Indigenous prisoners?
4. Does the Communications Indicator Tool CIT provide consistent and reliable data on a prisoner's literacy and numeracy levels that can be used in aiding the development of a prisoner's case management plan?
5. What implications flow from the data to inform the provision of VET and personal development programs in Queensland correctional centres?

Method

The study used a predominately quantitative research approach, but incorporated qualitative methods. It was decided that this approach, termed mixed methods research (Cresswell, 2003), would best accommodate the nature and goals of the research investigation. Mixed methods research is defined as “research in which the investigator collects and analyses data, integrates the findings, and draws inferences using both quantitative and qualitative methods in a single study” (Tashakkori and Creswell, 2007: 4). The challenge of this research project was determining how to integrate the data collection techniques and analysis over a considerable period of time. Below is an outline of this challenge at three stages of the investigation.

Stage 1: Planning and Preparation

Consultations were held with officers of the Queensland Corrective Services and Career Employment Australia (CEA), as the main provider of literacy and numeracy programs in Queensland correctional centres, regarding the proposal and ongoing facilitation of the project. These discussions resulted in the submission of an ‘Application for Approval to Conduct Research’ to the Research Committee of Queensland Corrective Services and to the Ethics Committee of Griffith University.

A review of literature published in Australia and other OECD countries (that participated in the International Adult Literacy Survey, 2000) was conducted to examine issues related to the literacy and numeracy levels of prisoners in general and of specific populations (male/female, Indigenous, NESB, young offenders) and the implications for training and personal development.

Discussions were held to evaluate the appropriacy, validity, and reliability of the Communications Indicator Tool (CIT) for specific groups, and the revised CIT was trialled. Feedback regarding the administration of the CIT and emerging issues from CEA teachers in the selected correctional centres was also gathered.

Stage 2: Data gathering and analysis

Data were gathered through the use of the Communications Indicator Tool (CIT) designed by Career Employment Australia (CEA) for use in correctional centres. Data were gathered by those teachers employed by CEA to provide literacy and numeracy programs within each of the correctional and remand centres. Prisoners were informed that the data were to be used for research purposes and their consent was required.

Using the revised Communication Indicator Tool, CEA teachers interviewed offenders placed on remand, over a period of one month, at the following correctional centres:

- Arthur Gorrie Correctional Centre: Remand, Reception and High Security Centre (244 male offenders)
- Brisbane Women's Correctional Centre: High Security Centre (40 offenders)
- Helena Jones Correctional Centre: Women's Community Custody Program (20 women).

All offenders placed on remand were approached individually by educational staff and informed that all information received would be treated confidentially. They were also informed that the CIT was not a QCS survey per se although the results would be used to assist in planning for appropriate levels of LLN and/or VET programs. It should be noted that some offenders who were on medication, under the effects of drugs, or generally defiant were not interviewed.

The principal researchers visited each site for familiarisation and for discussion and moderation with the CEA teachers. At this time, any emerging issues were discussed. CEA teachers marked the completed CITs and the results were returned to the principal researchers for entry into a database to enable analysis. The results for each CIT were moderated by the principal researchers at the time the data were collated and entered into the database. All data were coded and any identifying information removed. These data were analysed using SPSS software in order to derive any correlations among variables.

Stage 3: Report writing and feedback

This stage involved the development of a draft report that was circulated for discussion and validation from officers of QCS and CEA teachers involved in the study. A copy of this report was also submitted to the research unit of Queensland Corrective Services for comment and approval to publish.

Results

Background and limitations

The Language, Literacy, and Numeracy Program (LLNP) provided in Queensland correctional centres is federally funded through a joint initiative of the Department of Education, Training, and Arts, and Queensland Corrective Services. CEA has held a contract to deliver nationally recognised training in correctional centres in South East Queensland since 2001.

In 2002 at Arthur Gorrie Correctional Centre there was identified a need to develop a mass literacy screen for prisoners. The original aim was that the screen would identify prisoners with possible literacy needs so that these needs could be addressed while the prisoner was incarcerated. The screen would be part of the correctional centre induction. The CIT was to allow for reporting against the National Reporting System levels 1 to 3, level 3 being considered the take-off point for training and entry-level employment. Due to the stigma in our society associated with the term “(il)literacy”, the screen would be called a “Communications Indicator”.

Concurrently CEA held a Language, Literacy, and Numeracy Program (LLNP) contract through the Commonwealth Department of Education, Science, and Training (DEST). However in May 2006, Queensland TAFE was awarded all the LLNP contracts for Queensland except for a few small contracts. In order to verify the validity and reliability of the CIT it had been proposed that a control group from the CEA LLNP programs in the community undertake the CIT alongside groups in correctional centres. Both groups would have undertaken the CIT and been assessed by CEA teachers. However, due to the new contractual arrangements, access to a control group within a community organisation in order to produce a reliable result became unviable.

In addition, CEA used the AVETMISS database, CORSKILLS, to record all VET student data. During the period of the project, this was replaced with a new system, VetTrac. This change-over of the systems slowed the recording of data and therefore extended the time of the research project.

Evaluation of the Communications Indicator Tool

The Communications Indicator Tool has 4 parts:

1. A flow chart for teachers regarding use of the screen.
2. An AVETMISS-compliant enrolment form that provides demographic information and educational history.
3. The Communications Indicator tasks.
4. A marking guide for teachers to ensure validity and reliability in the use of the instrument.

The Communications Indicator comprises a range of reading, writing, and numeracy tasks, that vary in complexity and density and that are designed to provide a profile of the prisoner's literacy and numeracy ability reported in terms of the National Reporting System (NRS) levels 1-3. The tool is not intended to provide diagnostic information, but rather to indicate a possible need for LLN assistance. Prisoners identified during screening as possibly needing support would require further diagnostic assessment to provide a more accurate profile of their needs.

The importance of this screen is that, for the first time, offenders who are placed on remand can be screened on reception for literacy or numeracy problems. Not only does this assist in building prisoners' case management plans but also facilitates their access to literacy and numeracy classes while on remand. As prisoners on remand do not have access to VET, offenders with low levels of literacy and numeracy may use the time usefully in upskilling.

The literacy and numeracy tasks used in the CIT, while incorporating elements of the document, prose, and quantitative dimensions of ABS (1997), IALS (2001), and ALLS (2007), are designed for reporting against the National Reporting System. The NRS is the reporting system used for all Commonwealth funded adult literacy and numeracy programs. It was hypothesised that by combining demographic information with results from the literacy and numeracy tasks, it should be possible to compare performance on each task across age groups, gender, ethnicity, and educational background.

It should be noted that there is not a direct correlation between the reported literacy and numeracy levels assessed by the NRS and the levels assessed in the ALLS survey. The ALLS survey did not extend to people in correctional institutions, so the comparisons and comments made in the results section are indicative only. Following early discussions with academics regarding adult literacy and numeracy assessment tools, education officers in the correctional centres, other adult literacy providers and assessors, and a statistics adviser, the Communications Indicator Tool was revised to be more culturally and gender neutral. In addition, the assessment tasks (and instructions) were adjusted to better reflect NRS levels. It was also suggested that fields for each indicator task be added when recording the data for analysis. In addition, it was suggested that the enrolment form should include boxes to (a) indicate if the student required assistance, and (b) add ADHD to disabilities.

Given the aforementioned issues with the LLNP contracts, only two validations with CEA students in non-correctional centre programs were conducted. These indicated that the CIT was as valid as other assessment instruments.

When subject to statistical analysis of internal validity, the CIT assessment items for literacy formed a reliable scale of commonality but the numeracy items were not as reliable. Therefore the numeracy results should be seen as being indicative.

Interviews

Interviews with the CEA teachers at selected correctional centres indicated that they had no problems with administering the CIT. Some argued that it would be useful to have an oral component that would give an indication of the prisoner being able to understand oral instructions and that would indicate if the prisoner required specialist ESL instruction. Other comments regarded the potential for assessment results to be entered into the Offender Management System (IOMS) as this would ease the transfer of educational information and case notes when prisoners are transferred or moved from remand to another correctional centre.

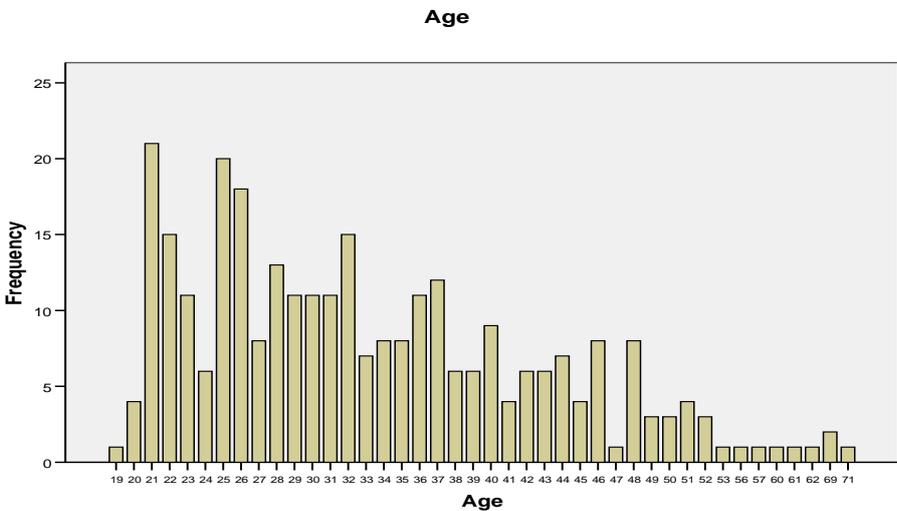
Data analysis and results

The data analysed resulted from the CIT being administered to 244 male offenders at the Arthur Gorrie Remand Centre, 40 offenders at Brisbane Women’s Prison, and 20 female offenders at Helena Jones Correctional Centre. All demographic data were self-reported with some fields being omitted by some respondents; hence there is an apparent discrepancy in total numbers in some of the following tables. A series of regression analyses was completed with the total scores for literacy and numeracy scores as the dependent variable (DV).

Age

The age range of prisoners interviewed was 19 to 71 years with the mean age of the correctional centre population being 33 years. As indicated in Table 1, while there are spikes at age 21 and 25, if the ages are grouped, then 19.1% are aged 19-24 years; 23% are 25-29 years; 31.3% are 30-39 years and 24.7% are over 40 years. These age groupings are similar to those in the recent international Adult Literacy & Life Skills Survey (ALLS) (ABS 2007), the Australian data of which was released in November 2007.

Table 1: Age of prisoners on remand



The following tables (Tables 2 and 3) indicate the correlations between age and literacy and numeracy levels for male prisoners. These tables indicate that the mean age of prisoners with level 1 literacy is 29.7 years and with level 1 numeracy 28.38 years. Further, it is apparent that both literacy and numeracy levels increase with age². In contrast, the ALLS data indicated that in general, literacy levels decrease with age. However, significantly, people in the 15-19 years age group had lower literacy levels than the 20-24 year age group. While this age group is not included in this study, it is important to note that in the ALLS survey, the percentage of 15-19 year old prisoners who attained skills scores lower than 3 on the prose scale, document scale, and numeracy scale was 52%, 47%, and 57% respectively, compared with 37% of 20-24 year olds for both prose and document literacy and 45% for numeracy. This could have implications for literacy and numeracy provision if and when offenders from this age group enter the adult prison system.

Table 2: Mean age for NRS Literacy Levels - male³

Literacy Level	Mean age	N	Standard Deviation
.00	32.45	11	15.410
1.00	29.70	97	9.983
2.00	30.25	85	9.498
3.00	33.03	40	10.970
Total	30.60	233	10.292

Table 3: Mean age for NRS Numeracy Levels - male

Numeracy Level	Mean age	N	Standard Deviation
.00	31.21	14	14.407
1.00	28.38	88	9.130
2.00	30.92	76	10.140
3.00	33.89	55	10.659
Total	30.68	233	10.348

² Note: The total number reported for the interaction of age and NRS level (233) is less than the total available number of prisoners screened (244). This is because age in years was not reported by all prisoners.

³ In Table 2 and following tables, the NRS 0 indicates incomplete assessment data, so it is not possible to give an NRS level.

Gender

Results from the ALLS survey indicated that in relation to gender, a higher proportion of women attained literacy scores of level 3 or above on the prose (56%) and health literacy (41%) scales than men (52% and 40% respectively). However, there was a higher proportion of males attaining scores of level 3 or above on document (55%) and numeracy (53%) scales, compared with 51% and 42% for women. Results for problem solving did not differ according to gender, with 30% of males and females attaining level 3 or above.

The following tables (Tables 4 and 5) compare the literacy and numeracy levels of prisoners in each of the correctional centres.

Table 4: Comparison of literacy levels

	Literacy %			
	NRS 0	NRS 1	NRS 2	NRS 3
Arthur Gorie: 80.94% NRS 2 or lower	5.33	34.43	40.98	19.26
Brisbane Womens: 50% NRS 2 or lower	0	5	45	50
Helena Jones: 30% NRS 2 or lower	0	0	30	70

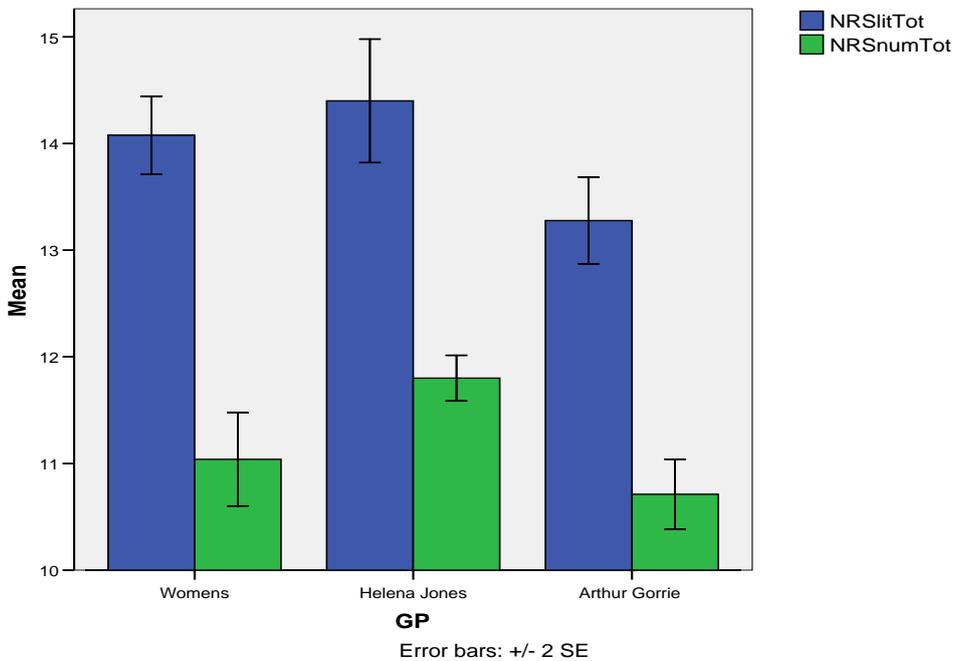
It can be seen that the data from the correctional centres are consistent with the ALLS data in that women perform at a higher literacy level than men. It should also be noted that the CIT did not assess performance beyond NRS level 3. However, of concern is that nearly 81% of male prisoners were at NRS level 2 or lower for literacy. The gender difference is less marked for numeracy (see Table 5) but the data still indicate a considerable number of prisoners with low levels of numeracy.

Table 5: Comparison of numeracy levels

	Numeracy %			
	NRS 0	NRS 1	NRS 2	NRS 3
Arthur Gorrie: 70.2% NRS 2 or lower	7.8	33.2	29.2	29.7
Brisbane Womens: 47.5% NRS 2 or lower	0	15	32.5	52.5
Helena Jones: 35% NRS 2 or lower	0	5	30	65

Table 6 presents the aggregate data for literacy and numeracy levels for each of the correctional centres. Although not as fine as the ALLS survey data, the current data demonstrate that the women have much higher levels of literacy than the men but that there is a less marked gender difference for numeracy. In addition, the data show that women at Helena Jones perform at a consistently higher level than do the women at the Women’s Correctional Centre.

Table 6: Total levels of literacy and numeracy by correctional centre



Ethnicity

Ninety percent of female prisoners stated they were Australian. Of the male prisoners, 79.5% reported they were born in Australia, and of these 4.5% identified as Aboriginal or Torres Strait Islander. A further 8.6 % of prisoners stated they were born in New Zealand, while the remaining 11.9% came from a range of countries including Belgium, Canada, El Salvador, England, Germany, Ireland, Poland, Romania, Samoa, Somalia, Spain, Sudan, Tonga, Vietnam, and Zambia. However, all reported that they spoke English well or very well. As these data were self-reported some caution should be taken in relation to level of spoken English. This was not assessed.

Disability

Offenders were asked to indicate if they had a disability. Categories included physical, intellectual, and mental disabilities; specific disabilities related to hearing, vision, and learning; acquired brain impairment; and other medical condition. As the frequencies are quite small, these categories were, for the purpose of analysis, collapsed into three broad categories: physical disability, intellectual disability, and learning disability.

Of the 60 female offenders, six (10%) indicated that they had a disability. Two (3.3%) indicated physical disabilities (vision and hearing impairment) and two (3.3%) some form of mental illness. One indicated she had acquired brain impairment while another did not specify her condition. Tables 7 and 8 provide data for male offenders' literacy and numeracy levels in relation to disability. Unsurprisingly, there appears to be a correlation between disability and lower levels of literacy and numeracy performance.

Table 7: Disability Category + Literacy Level cross tabulation - male

Count

Disability Category	Lit Level				Total
	.00	1.00	2.00	3.00	
Physical disability	2	10	9	4	25
Intellectual disability	2	3	5	1	11
Learning disability	1	2	1	0	4
Total	5	15	15	5	40

Table 8: Disability Category + Numeracy Level cross tabulation - male

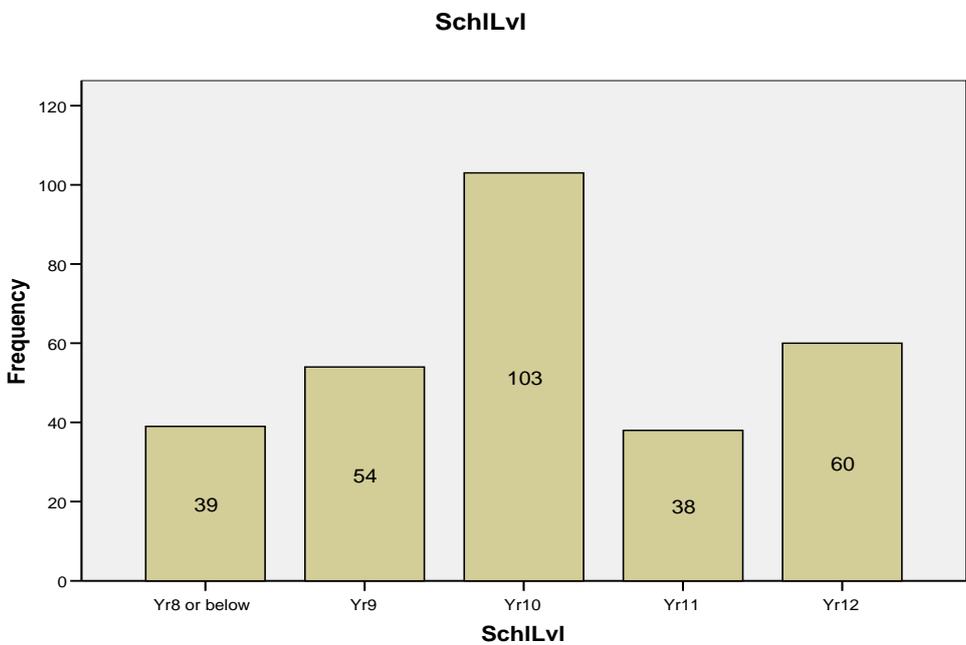
Count

Disability Category	Unlevel				Total
	.00	1.00	2.00	3.00	
Physical disability	4	7	8	6	25
Intellectual disability	0	5	5	0	10
Learning disability	0	3	1	0	4
Total	4	15	14	6	39

Level of schooling attained

Table 9 relates to the total numbers of prisoners on remand in this study. By far the majority have attained a minimum of Year 10. For male prisoners 35.7% achieved Year 10, with a further 11.4% achieving Year 11 and 18% Year 12. For female prisoners, 26.7% attained Year10 while a further 16.7% attained Year 11 and 26.7% stated that they had completed Year 12.

Table 9: Level of schooling



The following tables (Tables 10 and 11) represent the levels of schooling attained by male and female offenders.

Table 10: Level of schooling attained by male offenders

Year Level	Frequency	Percentage
Yr 8 or below	30	12.3
Yr 9	47	19.3
Yr 10	87	35.7
Yr 11	28	11.5
Yr 12	44	18.0
Total	236	96.8
Missing	8	3.2
Total	244	100

Table 11: Level of schooling attained by female offenders

Year Level	Frequency	Percentage
Yr 8 or below	9	15.0
Yr 9	7	11.7
Yr 10	16	26.7
Yr 11	10	16.7
Yr 12	16	26.7
Total	58	96.7
Missing	2	3.3
Total	60	100

Data from the ALLS survey indicated that respondents with 10 or fewer years of formal education had the highest proportion of scores in level 1. The data presented in Tables 12 and 13 appear to be consistent with this.

Table 12: Category of Schooling + Literacy Level cross tabulation - male

Category of Schooling	Literacy Level				Total
	NRS0	NRS 1	NRS 2	NRS 3	
Less than Grade 8	0	6	0	0	6
Grade 8 to 10	8	65	61	21	155
More than Grade 10	3	25	25	19	72
Total	11	96	86	40	233

Table 13: Category of Schooling + Numeracy Level cross tabulation - male

Category of Schooling	Numeracy level				Total
	NRS 0	NRS 1	NRS 2	NRS 3	
Less than Grade 8	0	6	0	0	6
Grade 8 to 10	14	61	54	27	156
More than Grade 10	3	17	24	28	72
Total	17	84	78	55	234

Post-school qualifications

Again these data (see Tables 14 and 15) need to be treated with caution, as they are self-reported qualifications. Some respondents indicated they were employed as trades people but did not state that they had a qualification; others appeared to be confused regarding their qualifications. Hence the data need to be viewed as indicative. Combined male and female data are represented in Table 16.

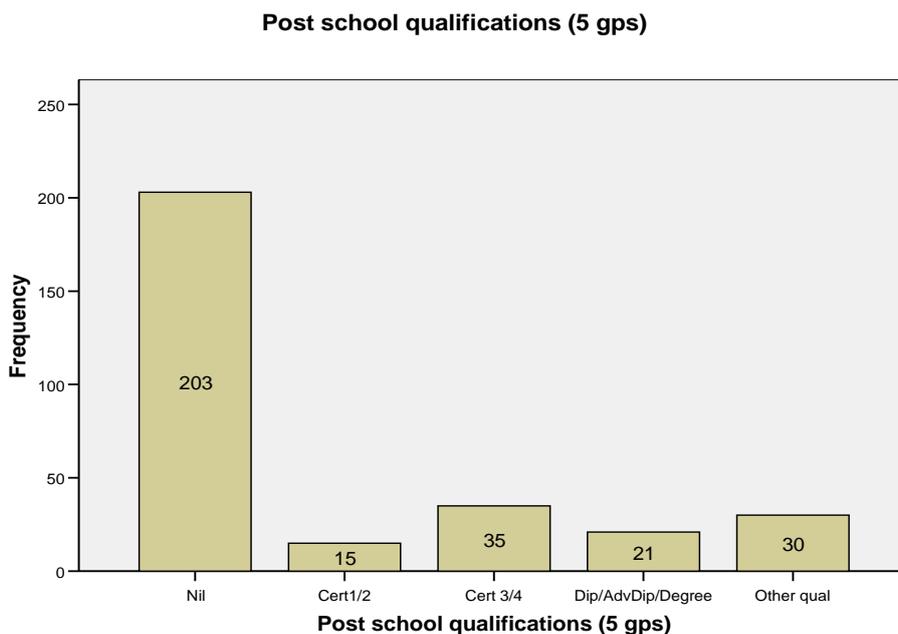
Table 14: Category of post school - males

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Certificate 1 – 2	23	9.4	37.1	37.1
	Certificate 3 – 4	26	10.7	41.9	79.0
	Diploma - Adv trade	7	2.9	11.3	90.3
	Higher Education	6	2.5	9.7	100.0
	Total	62	25.4	100.0	
Missing	System	182	74.6		
Total		244	100.0		

Table 15: Category of post school - females

		Frequency	Percent	Valid %	Cumulative %
Valid	Certificate 1 – 2	3	5.0	5.0	5.0
	Certificate 3 – 4	11	18.3	18.3	23.3
	Diploma - Adv trade	8	13.3	13.3	36.6
	Higher Education	4	6.7	6.7	43.3
	Total	26	43.3	43.3	
Missing	System	34	56.7	56.7	
Total		60	100		

Table 16: Post-school qualifications across all correctional centres



Data from the ALLS survey indicated that there was a strong association between educational attainment and achieved literacy levels. For both the prose and document scales, 64% of people with a qualification achieved level 3 or above, compared with 35% who had no qualification. On the numeracy scale 58% of people with a qualification gained level 3 or above, compared with 35% with no qualification. Further, achievement on the literacy scales correlated with the number of years in formal education.

Summary

Profile of literacy levels of prisoners

- Literacy levels increase with age. The mean age for males at NRS level 1 was 29.7 years and at NRS level 3 was 33 years.
- Males have lower levels of literacy than females, with nearly 81% of male prisoners being at NRS level 2 or lower, for literacy.
- The more learning difficulties a prisoner had the poorer their literacy level.
- The majority of prisoners had a minimum of Year 10 schooling (65.1% of males and 70% of females).
- Having completed Year 12 usually resulted in a better performance in literacy.

Profile of numeracy levels of prisoners

- The gender difference is less marked for numeracy than for literacy, but the data still indicate a considerable number of prisoners with low levels of numeracy.
- Those with learning difficulties scored lower on numeracy than did those without learning difficulties.
- Level of schooling positively correlated with performance, that is, those who completed Year 12 performed better than those who completed only Year 8.
- Those who completed schooling in the 1970s or 2000s performed better than those who completed schooling in other years.

Findings

The aims of the pilot project were: first, to evaluate the validity and reliability of the Communications Indicator Tool (CIT); and, second, to provide an indication of the literacy and numeracy (L&N) profiles of offenders who are placed on remand in selected correctional centres in South East Queensland over a one month period.

The research questions were:

1. What are the literacy and numeracy (L&N) profiles of offenders who are placed on remand in selected correctional centres in SE Queensland over a one-month period?
2. What are the differences, if any, in L&N profiles between male and female prisoners?
3. What are the differences, if any, in L&N profiles between Indigenous and non-Indigenous prisoners?
4. Does the Communications Indicator Tool (CIT) provide consistent and reliable data on a prisoner's literacy and numeracy levels that can be used in aiding the development of a prisoner's case management plan?

5. What implications flow from the data to inform the provision of VET and personal development programs in Queensland correctional centres?

The following sections summarise the findings in relation to each question.

1. *What are the literacy & numeracy (L&N) profiles of offenders who are placed on remand in selected correctional centres in SE Queensland over a one-month period?*

The data presented in the previous sections indicate that overall 13.1% of offenders have level 1 literacy, 29.7% level 2 literacy, and 46.4% level 3 literacy. The data for numeracy are 17.7% level 1, 30.5% level 2, and 49% level 3. Overall, 42.8% of prisoners are below NRS level 2 for literacy and 48.2% of prisoners are below NRS level 2 for numeracy. That is, the literacy and numeracy skills of these offenders are below the levels required for entry-level vocational education and training, and these prisoners may also require assistance with prison texts.

2. *What are the differences, if any, in L&N profiles between male and female prisoners?*

Major differences are apparent between male and female prisoners, particularly in literacy. As indicated in Table 6, female offenders have a much higher level of literacy than males. Specifically, 81% of male offenders have literacy levels of NRS 2 or lower, compared with 50% of female offenders. For numeracy, 70% of male offenders and 47.5% of female offenders are below NRS level 2. Further, women at Helena Jones performed at a consistently higher level than other prisoners.

3. *What are the differences, if any, in L&N profiles between Indigenous and non-Indigenous prisoners?*

Given the small percentage of offenders in this study who identified as Aboriginal or Torres Strait Islander any differences in profiles would not be valid or statistically reliable and therefore it was not possible to answer this question.

4. *Does the Communications Indicator Tool (CIT) provide consistent and reliable data on a prisoner's literacy and numeracy levels that can be used in aiding the development of a prisoner's case management plan?*

Despite the initial indicator tool being a fairly basic assessment instrument, it showed reasonable reliability and validity on statistical tests and would appear to give a reasonable prediction of prisoners' performance at a later date. As a result the CIT is a valuable tool that can be used in aiding the development of a prisoner's case management plan.

5. The final question, '*What implications flow from the data to inform the provision of VET and personal development programs in Queensland correctional centres?*' will be addressed in the following discussion.

Discussion

In recent years the national policy focus has been on international competitiveness, national productivity, and the need for employment related vocational and employability skills. Skills shortages are to be remedied partly by skilled migration and partly, in the local population, by increasing skill levels. Central to this policy are the underpinning skills of literacy and numeracy. While being literate and numerate cannot guarantee employment, not having these skills puts one at risk of being denied access to employment and training, and of poor health and social exclusion.

The review of the literature suggests that there is a concern that low literacy and numeracy levels may be seen as barriers to participation in VET, and, along with other systemic barriers to learning, may underpin poor attendance patterns, failure to complete courses, or lack of motivation. For example, several authors cited in this literature review argue that adult literacy classes provided under either the Language, Literacy, and Numeracy Program (Rahmani, Crosier and Pollack, 2002) or other programs, as in the U.K. (Hurrey et al., 2005), are often the first, post-compulsory school learning experiences for adults or young offenders. These classes provide an opportunity not only to improve skills in literacy and numeracy but also to discover a new self-identity as a learner, to build confidence, and to acquire a range of social and economic capital previously unable to be accessed or enacted. As Schuller, Bynner, and Feinstein (2004) argue, it is the interconnectedness of human and social capital, which results in learning capability.

Although literacy programs are being offered as part of the solution, no one really knows the extent of the problem. This pilot research study sought to provide some quantitative data in order to gain a literacy/numeracy profile of offenders as they are placed on remand, to better provide for their learning needs. As indicated earlier, the CIT is a basic screen which can be used to identify those prisoners who may have literacy and/or numeracy needs. Of particular concern are approximately 80% of the males and 50% of the females whose results indicated level 1 or 2 literacy or numeracy. They are the most likely to have difficulty with text-based management systems, personal development programs, or education and training programs.

It is also important to return to the earlier question “What concept of literacy or numeracy is privileged by the design of the assessment?” The CIT was designed to include a series of ‘real-life’ texts and tasks, which move from basic word recognition, decoding skills and numerical operations to more complex calculations, text construction, and comprehension. The latter high-order skills are those that are required to participate successfully in work, training, and rehabilitation programs. Not only do prisoners need to know how to read a range of texts for different purposes, they also need to be proficient in the literate practices associated with the prison system. Such practices include oral communication, which is not

currently assessed using the CIT. Reports from the U.K. (Hurry et al., 2005) suggest that speaking and listening skills should be assessed but that this assessment should occur at a later date than the initial assessment, as this would provide more time to allow for a more accurate assessment by specialist teachers, and thus would be more cost-effective. In the meantime, research from the U.S. (Greenberg et al., 2007) indicates the importance of teaching literacy and numeracy alongside vocational skills. While vocational courses may not be available to prisoners on remand, reading, writing, and numeracy skills should be taught within a relevant context. Therefore the texts used should have relevance to the learners. For example, it should be possible to utilise vocational texts as well as the texts and tasks required by the correctional system. It is also imperative that literacy and numeracy intervention programs be accorded status both among correctional service officers and prisoners, such that these programs are seen neither as a privilege, which can be withdrawn, nor as shameful.

If, as is indicated in the ALLS data, there is a correlation between successful engagement and persistence in vocational and employment programs, and the literacy and numeracy skills of the labour force, then the greatest impact of rehabilitation could be gained by investing in improving the skills of offenders with the lower levels of literacy and numeracy.

Conclusion

From the reviewed data flow a number of implications that may inform the provision of VET and personal development programs in Queensland correctional centres. First, it is evident that a large percentage of the prison population has literacy and numeracy levels below NRS level 3, the level required for entry-level vocational education and training. This would have implications for the delivery and assessment of personal development programs as well as vocational programs. Second, the data demonstrate that only a small percentage of prisoners report having formal qualifications or employment prior to being placed on remand. Consequently, a major component of rehabilitation must be the acquisition of vocational and employment skills. Literacy and numeracy skills must be taught alongside, or embedded within, these vocational skills.

The trialing of the Communications Indicator Tool has raised a number of issues. First, given the positive response to the results of the CIT, it has been suggested that the CIT data should be entered into relevant databases as an indicator of a prisoner's literacy/numeracy difficulties, and subsequently, when the offender is sentenced, transferred with other case files to other correctional centres. Such data should then be accessible to education officers as required. Second, it was suggested that speaking and listening should be assessed, however, despite numerous attempts to develop a tool that was time and cost effective this became impractical and it was thought that oral language assessment would be better left to the individual diagnostic literacy and numeracy assessments at a later stage. Third, the final reporting of the CIT assessments in terms of the NRS must be done by teachers who have specific training in the use of the NRS.

Recommendations

1. That the results from this pilot project be followed up to compare the CIT score with the results of formal diagnostic L&N assessments once the offender enters the correctional system.
2. That the validity and reliability of the CIT numeracy tasks be reviewed (for example they could be benchmarked against the Basic Skills Agency, U.K., initial assessment items).
3. That the CIT be expanded to include the screening of vocational interests and employment goals.
4. That this pilot project be expanded to survey more correctional centres in Queensland.
5. That these preliminary findings be disseminated to other jurisdictions for comment and follow-up.
6. That a longitudinal study be conducted to investigate the results of the teaching of literacy and numeracy in support of VET programs.

Bibliography

- Australian Bureau of Statistics (ABS, McLennan). (1996). *Aspects of literacy: Assessed skill levels, Australia 1996*. Canberra: Australian Bureau of Statistics.
- Australian Bureau of Statistics. (2004). *Queensland in review. Social characteristics of population. Crime and justice. Prisoners (1991-2001)*. www.abs.gov.au Canberra, 30 Sept 2004.
- Australian Bureau of Statistics. (2007). *Adult Literacy and Lifeskills Survey, summary results, Australia*. www.abs.gov.au Canberra, 28 Nov 2007.
- Australian National Training Authority (ANTA). (2001). National strategy for vocational education and training for adult prisoners and offenders in Australia. Brisbane: ANTA.
- Australian National Training Authority (ANTA). (2003). *Shaping our future*. Brisbane: ANTA.
- Australian National Training Authority (ANTA). (2004). *National offender literacy assessment tool*. ANTA Innovative Literacy Project. Melbourne: ANTA.
- Bayliss, P. (2003). Learning behind bars: Time to liberate prison education. *Studies in the Education of Adults*, 35(2), 157-172.
- Beddie, F.M. (2004). Community literacy: A discussion paper. www.dest.gov.au/literacynet/
- Black, S., Rouse, R., & Wickert, R. (1990). *The illiteracy myth: A comparative study of prisoner literacy abilities*. Sydney: University of Technology, Sydney.
- Bynner, J. (2002). *Literacy, numeracy and employability: Evidence from the British cohort studies*. Commissioned paper for ALNARC online forum, archived at www.staff.edu.au/alnarc
- Byrne, E. (1990). *Unlocking minds: From retribution to rehabilitation. A review of prisoner education in Queensland*. St Lucia: University of Queensland.
- Callan, V.J. (2004). *Pre-release post-release employment assistance program for prisoners*. Final report. Brisbane: Department of Employment and Training. CDA Consulting.
- Carey, S., Low, S., & Hansbro, J. (1997). *Adult literacy in Britain*. London: Stationery Office.
- Christie, F. (Ed). (1990). *Literacy for a changing world*. Hawthorn, Vic: ACER.
- Coates, S., Fitzpatrick, L., McKenna, R., & Makin, A. (1995). *National reporting system: A mechanism for reporting adult English language, literacy and numeracy indicators of competence*. Canberra: DEET/ Brisbane: ANTA.

- Cox, R. & Carlin, A. (2001). Vocational education and training in Queensland corrections. In F. Beven, C. Kanos, & D. Roebuck (Eds.), *Knowledge demands for the new economy: Proceedings of the 9th Annual International Conference on Post-Compulsory Education and Training* (p.15). Brisbane: Centre for Learning & Work Research.
- Cresswell, J. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd Ed.). Thousand Oaks (CA): Sage Publications.
- Cumming, J. (1997). More than a reporting system. Report of the project to pilot the national reporting system. Belconnen, ACT: Language Australia.
- Department of Training and Industrial Relations (DTIR). (1997). *Queensland state training profile 1997*. Queensland: Department of Training and Industrial Relations, Division of Training Queensland.
- Feinstein, L. (2002). *Quantitative estimates of the social benefits of learning, 1: Crime*. Research Report No.5. London: Centre for Research on the Wider Benefits of Learning.
- Gee, J. P. (1990). *Social linguistics and literacies: Ideologies in discourses*. London: The Falmer Press.
- Golding, N. (2002) Prisoner perceptions: Learning experiences in correctional adult literacy programs. *Australian Vocational Education Review*, 9(1) 38-48.
- Grant, A. N. (1987). *Opportunity to do brilliantly*. Canberra: AGPS.
- Greenberg, E., Dunleavy, E., & Kutner, M. (2007). *Literacy behind bars. Results from the 2003 National Assessment of Adult Literacy Prison Survey*. (NCES 2007-473). US Department of Education, Washington DC: National Centre for educational Statistics.
- Hull, K., Forrester, S., Brown, J., Jobe, D., & McMullen, C. (2000). Analysis of recidivism rates for participants of the academic/correctional/transition programs offered by the Virginia Department of Correctional Education. *Journal of Correctional Education*, 51(2) (cited by ProLiteracy America, 2003).
- Hunt, A. (2003). Does education play a role in 'practising the art of living'? Designing a customised measurement instrument to evaluate student outcomes and benefits of VET programs in the Western Australian prison system. In J. Searle & I. Yashin-Shaw (Eds.), *Enriching learning cultures: Proceedings of the 11th Annual International Conference on Post-Compulsory Education and Training* (pp. 51-60). Brisbane: Australian Academic Press.

- Hurry, J., Brazier, L., Snapes, K., & Wilson, A. (2005). *Improving the literacy and numeracy of disaffected young people in custody and in the community*. Summary interim report of the first 18 months of the study. London: National Research & Development Centre (NRDC) www.nrdc.org.uk
- Justice Center, University of Alaska Anchorage. (Summer 2007). National assessment of adult literacy and literacy among prison inmates. *Alaska Justice Forum* 24(2), 2-4.
- Noonan, P. (2004). Equity in education and training in correctional services institutions. In K. Bowman, (Ed.), *Equity in vocational education and training*. Research Reading. (pp. 173-183). Melbourne, NCVER.
- OECD and Statistics Canada (2000). *Literacy in the information age. Final report of the International adult literacy survey*. Paris and Ottawa.
- Payne, G. (2006). Re-counting 'illiteracy': Literacy skills in the sociology of social inequality. *The British Journal of Sociology*, 57(2), 219-240.
- ProLiteracy America (2003). *US Adult literacy programs: Making a difference, a review of research on positive outcomes achieved by literacy programs and the people they serve*. Syracuse, NY: ProLiteracy Worldwide.
- Rahmani, Z., Crosier, T. & Pollack, S. (2002). Evaluating the impact of the literacy and numeracy training programme for job seekers. Canberra: DEST.
- Schuller, T., Bynner, J., & Feinstein, L. (2004). *Capitals and Capabilities*, Centre for Research on the Wider Benefits of Learning, www.learningbenefits.net/pdf/capscaps.pdf
- Semmons, B. & Oldfield, J. (1999). *Vocational education and training in Australian correctional institutions. Review of research*. Adelaide: NCVER.
- Statistics Canada and OECD (2005). *Learning a living: First results of the Adult Literacy and Life Skills Survey*. Ministry of Industry, Canada and Organizations for Economic Cooperation and Development (OECD): Paris.
- Street, B. (1984). *Literacy in theory and practice*. Cambridge: Cambridge University Press.
- Tashakkori, A., & Creswell, J. (2007). The new era of mixed methods. *Journal of Mixed Methods*, 1(1), 3-7.
- Watson, M., Nicholson, L., & Sharplin, E. (2001). Vocational education and training literacy and numeracy: Review of research. Adelaide: NCVER.

Additional literature

- Swain, J., Baker, E., Holder, D., Newmarch, B., & Coben, D. (2005). *Beyond the daily application: Making numeracy teaching meaningful to adult learners*. London: National Research and Development Centre for Adult Literacy & Numeracy.
- Torre, M.E., & Fine, M. (2005). Bar none: Extending affirmative action to higher education in prison. *Journal of Social Issues*, 61(3), 569-594.
- Wilson, A. (2005). *Rapid evidence assessment of interventions that promote employment for offenders*. London: Institute of Education.
- Wilson, A. (2004). Four days and a breakfast: Time, space and literacy/ies in the prison community. In K. Leander & M. Sheehy (Eds.), *Space Matters: Assertions of space in literacy practice and research*. USA: Peter Lang.
- Wilson, A. (2000). There's no escape from Third-Space Theory: Borderland discourse and the in-between literacies of prison. In D. Barton, M. Hamilton, & R. Ivanic (Eds.), *Situated Literacies*. London: Routledge.
- Wilson, A (1999). Absolute truly brill to see from you again: Visuality and prisoners' letters. In D. Barton & N. Hall (Eds.), *Letter-writing as social practice*. Amsterdam: John Benjamins.
- Wilson, A. (1996). Speak up, I can't write down what you're reading: The place of literacy in the prison community. *Journal of Correctional Education*, 47(2), 94-100.

