



Embedded Literacy and Numeracy Project

Action enquiry - Case study from the Department of Corrections



Author:

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I have worked for the Department of Corrections for five years, working with prisoners in building and construction skills. Previously, I worked in the construction industry for 25 years. In 2010, I achieved Level 5 Literacy and Numeracy (NCALE) and am studying towards a National Diploma in Adult Education (Level 6).

ACTION ENQUIRY TOPIC AND RESEARCH QUESTION

- » To what extent would a series of sentence-building exercises, support and feedback given at regular intervals over an 11-week period improve sentence-building and writing ability?

TOPIC

The aim of the action enquiry was to explore strategies I could use to enrich the literacy skills of prisoners who were completing unit standards in Building Construction Allied Trades (BCATS) towards National Certificate Level 2.

Prisoners need to complete 10 unit standards in BCATS to achieve National Certificate Level 2. Prisoners can successfully achieve this qualification by providing single word or brief responses to written questions as their technical knowledge and knowledge of curriculum content is being assessed, rather than their grasp of literacy skills such as correct punctuation, grammar and sentence structure. This action enquiry project explored whether providing regular opportunity and support to write in full sentences about vocationally-relevant content during the BCATS course would enhance the prisoners' literacy levels.

CONTEXT

Corrections

The Department of Corrections has a target of reducing re-offending by 25% by 2017. The intention is that it will result in significantly fewer victims of crime and considerable cost savings. Research shows that post-release employment supports ex-prisoners and links to reduced re-offending. The Department recognises that poor literacy and numeracy skills pose a significant barrier to prisoners engaging in, and succeeding with, further education and employment activities. To help address this, Corrections provides prisoners with both intensive Foundations Skills literacy and numeracy courses, and embedded literacy and numeracy within vocational courses. Over 2,380 prisoners participated in Foundation Skills literacy and numeracy programmes and 500

in embedded literacy and numeracy within vocational courses in the year ended 30.6.12. The Department expects significant increases in the provision of literacy and numeracy courses to both prisoners and community offenders over the next five years.

Since 2010, eighty-seven vocational instructors have been supported in learning in how to embed literacy and numeracy within their vocational subjects through the Corrections Department partnering with the Tertiary Education Commission. In the past three years, these instructors have developed a range of literacy and numeracy diagnostic tools and learning resources specific to their industries and the prison environment.

THIS ENQUIRY

This action enquiry project extended embedding work that has been underway within the Department of Corrections for the past three years.

BCATS is a formal vocational programme (11-14 weeks duration) delivered in workshops at Springhill Prison under the umbrella of the Wellington Institute of Technology. The programme is run by the Building Construction Industry Training Organisation (BCITO) which writes the learning materials. Adult prisoners showing some potential or motivation for further building and construction learning and experience prior to release from prison can be accepted onto the BCATS course in groups of about 10. The prisoners come with a range of literacy and numeracy skills (typically around Step 3 of the Learning Progressions). Commonly, some bring a range of previous experience in the building industry. This varies from minimal previous practical experience to several decades working in building and construction. Prisoners attend class four days per week from 8.30am to 3pm. The course is a mix of classroom-based theory (for each unit standard) and practical content. For example, learners understand about using hand and power tools, health and safety practices, reading and drawing building plans, and building outdoor wooden projects.

During this Action Enquiry, seven prisoners participated in the course. One prisoner was released prior to completion of the programme.

METHOD

All prisoners on the course were assessed for numeracy and literacy using the Assessment Tool on the second day of the BCATS course. These initial assessments were used to estimate participants' writing ability, which was expected to fall at the same level or below the level for the other literacies measured.

The Literacy and Numeracy for Adults Assessment Tool writing test was not administered at that time, due to concern about possibly overwhelming prisoners with formal assessment which might jeopardise their motivation to engage in the BCATS course. In addition, it was considered that the Assessment Tool writing assessment task (writing a letter or report about a hypothetical situation unrelated to building and construction) was not relevant or meaningful to prisoners, so might result in less valid results. For this action research an equivalent, vocationally-specific and relevant task was developed, using the Assessment Tool summative writing test marking criteria as a guide, using trade-specific content to increase the relevance of the test for prison participants.

Prisoners were given a set of four vocationally-relevant terms (for example: timber, hammer, glue, nail) and asked to write one sentence containing each target word and to link the sentences into a short paragraph. Different sets of target words were used on each test delivery across the course. For each test administration, prisoners' writing was subjectively evaluated in terms of sentence structure, spelling, use of punctuation and grammar, relevance of topic and quality of ideas: the same dimensions used by the Assessment Tool summative writing test.

The four separate writing tests were delivered to prisoners on days 7, 21, 33 and 46 of the BCATS course. Individual verbal feedback was provided to each prisoner about their test performance after each test administration. Between the tests, I delivered short (10-minute) lessons on basic grammar, sentence structure, writing for an audience and linking of sentences.

During the BCATS course, and specifically during lessons focused on aspects of writing, anecdotal information was gained through discussion about the contexts in which prisoners use writing skills in their daily lives, and their experiences and attitudes towards writing and themselves as writers. At the end of the BCATS course on Day 57, all prisoners were assessed using the Assessment Tool reading, numeracy and summative writing measures. For the purpose of this action research, individual prisoners' raw scores on the dimensions, and total raw scores from the first and last vocationally-based writing task administrations were compared to identify any changes or improvements in writing over the course of the assessment period. The results were tabulated and analysed.

FINDINGS

The sentences the prisoners wrote on the first writing test in the action enquiry appeared to be at a higher level than those predicted by their initial results on the Assessment Tool reading assessment. The prisoners appeared to enjoy doing the writing tasks. All the prisoners in this study reported that they rushed or guessed some of the answers when completing the initial Assessment Tool assessments for reading and numeracy because they did not want to be left behind or finish last and appear “dumb”. Two prisoners told the instructor that the Literacy and Numeracy for Adults Assessment Tool tests were “too long” and that they did not care about their performance on the tests. Testing and assessment appears to elicit anxiety and impact negatively on motivation to perform for many prisoners, likely related to negative experiences of formal education. During the course of the study I repeatedly explained the purpose of the Assessment Tool tests and the action enquiry as helping prisoners improve their literacy and numeracy, without pass or fail marks.

At the first writing assessment (Day 7) the sentences produced were quite simply structured and punctuated but contained some complicated words. My impressions were that the prisoners were still settling into the BCATS course and were learning lots of new information, both practical and theoretical. They seemed cautious of the environment and the instructor. By the second writing assessment (Day 21) the prisoners appeared more comfortable with some of the language associated with the carpenters’ shop. This allowed most of the prisoners to begin to create more elaborate sentences using technical language. I observed that the prisoners seemed more relaxed and settled within the BCATS course by this stage. By this stage the prisoners appeared to have a better understanding of the workshop environment, the tools and to be more comfortable with me. Their improved grasp of technical knowledge and relevant language seemed to allow them to expand their written sentences. Given the prisoners’ basic knowledge of sentence structure and punctuation, the initial action-enquiry assessment results encouraged the instructor to continue to incorporate an expectation during the BCATS unit standards for prisoners to use full sentences whenever they were writing. Additional tasks (e.g., writing a letter to a client thanking them for the opportunity to quote on building a new kitchen) were included.

By the third writing assessment (Day 33), the prisoners were attempting to write paragraphs and some were trying to use all the prompt words, even though they were only required to use four. They appeared to be trying to be inventive with their paragraphs, in terms of language and audience, and many added humour into their writing. Most of their sentences were linked and sequenced.

At the final writing assessment (Day 46) all prisoners produced linked sentences which made good sense with good structure, clearly written with an audience in mind. There were spelling errors apparent in the writing produced. Overall it appeared that all who participated in the study showed some improvement in their writing.

The prisoners in the study reported that the only writing they engaged in was writing letters to the families on the outside. None had previous experience writing letters to apply for, or resign from, employment. Two prisoners reported no computer skills, one prisoner did not know how to use the Internet but had used e-mail previously, and four prisoners reported having basic computer skills (able to use the Internet and e-mail).

Table 1: Initial and Final Test Ratings (using TEC Summative Writing guide scores) for Prisoners on Action Enquiry Vocationally-based Writing Assessment

Candidate	Audience	Spelling	Language cohesion	Punctuation of sentence	Punctuation in sentence	Sentence structure	Text cohesion	Quality of ideas	Total raw scores
<i>Range</i>	<i>0-3</i>	<i>0-3</i>	<i>0-2</i>	<i>0-1</i>	<i>0-2</i>	<i>0-2</i>	<i>0-3</i>	<i>0-3</i>	<i>0-18</i>
A	<i>0 -</i>	<i>1 -</i>	<i>1 -</i>	<i>1 -</i>	<i>1 -</i>	<i>1 -</i>	<i>1 -</i>	<i>1 -</i>	<i>7 -</i>
B	2 3	2 3	2 2	1 1	2 2	2 2	2 2	2 3	15 18
C	<i>1 2</i>	2 2	<i>1 2</i>	1 1	<i>1 2</i>	<i>1 2</i>	<i>1 2</i>	<i>1 2</i>	9 15
D	<i>1 2</i>	<i>1 2</i>	<i>1 2</i>	1 1	<i>1 2</i>	<i>1 2</i>	<i>1 2</i>	<i>1 2</i>	8 15
E	<i>1 2</i>	2 2	<i>1 2</i>	1 1	<i>1 1</i>	<i>1 1</i>	<i>1 2</i>	2 2	10 13
F	<i>0 2</i>	<i>1 2</i>	<i>1 2</i>	1 1	1 1	1 1	<i>1 2</i>	<i>1 2</i>	7 13
G	<i>1 2</i>	2 2	<i>1 2</i>	1 1	1 1	1 1	<i>1 2</i>	<i>1 2</i>	9 13

* *Italic figures indicate initial results (Test 1) and bold figures indicate Test 4 results.*

Comparison of prisoner's initial (Test 1) and final (Test 4) obtained total raw scores on the Action Enquiry Vocationally-Relevant writing measure showed improvements in writing ability for all participants, with obtained total raw scores improving between 3 -7 points for all participants.

Comparison of obtained ratings for individual prisoners at Test 1 and Test 4 for various dimensions of writing suggest that all learners demonstrated improvement in their ability to write for a specific audience. For almost all learners, ratings for language cohesion, text cohesion and quality of ideas improved by the final writing assessment. This suggests that the ability of learners to communicate their ideas in meaningful and relevant contexts has been functionally improved by using vocationally-relevant teaching and assessment methods to target writing literacy. As the learners grew in confidence with their writing, the quality of their written ideas improved. This was thought to be related to the verbal feedback provided to each prisoner about their performance on each of the four writing assessments during the study.

Spelling, punctuation and sentence structure dimensions showed less improvement over the period assessed. This could reflect the short duration of the study, and that spelling and punctuation were not the primary focus of the brief teaching/coaching sessions delivered during the course of the study.

No learners' final scores on any writing literacy dimension decreased from their initial level of performance indicating no deterioration or negative impact on assessed writing skills as a result of the action-enquiry study.

Table 2: Comparison of Individual Prisoners' initial and summative Literacy and Numeracy for Adults Assessment Tool literacy scores

Candidate	Initial reading	Summative reading	Initial numeracy	Summative numeracy	Summative writing	Total raw writing score on Test 4 (Action Enquiry Measure)
A	3	-	4	-	-	-
B	5	5	6	6	6	18
C	3	3	4	4	4	15
D	4	4	4	5	4	15
E	3	3	4	4	3	13
F	2	4	3	5	3	13
G	2	5	4	5	3	13

**Bold figures indicate improvements of 1 or more levels on the TEC measure when comparing initial and summative results.*

I noticed that many of the prisoners in this study did rough drafts before writing their responses when the Assessment Tool summative writing test was administered at the conclusion of this action research. I had not previously observed this when administering the Assessment Tool test and it suggests that the specific focus and repeated practice during this action research enquiry may have led to the development of specific writing skills and strategies which can be applied in situations where prisoners are required to demonstrate writing abilities.

Comparing the obtained total raw scores for Test 4 (final administration of the Action Enquiry Vocationally-relevant test) with the obtained Assessment Tool Summative Writing test scores (Table 2) provides support for the validity of the Action Enquiry measure, as both sets of scores appear consistently distributed. The vocationally-relevant writing measure appears to be measuring the same set of literacy skills as the Assessment Tool summative writing test.

Table 2 shows that for three of the six prisoners who participated in the action research, their reading and/or numeracy Assessment Tool scores showed improvement over the course of the BCATS programme. While the action research project focused specifically on writing skills, other aspects of literacy and numeracy also appear to have improved while prisoners were participating in vocational training.

WHAT WE LEARNED

Currently the completion of vocational training unit standards does not generally directly target improvements in writing ability: single word or short responses are often adequate, and spelling, sentence structure and punctuation do not affect achievements. As a result, the writing abilities of prisoners do not tend to improve significantly during vocational training. However, during this action enquiry study, prisoners on a BCATS course were able and willing to write short sentences. They appeared to be interested in the subject they were being asked to write about and appeared to want to do well on the assessment tasks. Their writing skills improved over the 11-week period of the study. Writing skills can be targeted and enhanced within a vocational training course while still achieving the vocational training outcomes.

The prisoners all had basic writing skills and most were writing letters to their families on a weekly basis. It is likely that the intended audiences for these letters have a similar level of literacy to the prisoners so they are unlikely to receive feedback or letters in return which would model or encourage improvements in their written literacy. Prisoners have limited opportunities to practice or utilise sentence-writing skills elsewhere within the prison system as most writing is done on standardised forms which require single-word or brief responses.

The action enquiry study asks instructors to look closely at a specific aspect of their teaching which will hopefully improve outcomes for learners. The experience of engaging in this research led me to reflect on and examine all of the teaching methods and outcomes. Field-based action research can lead to further academically-based research into aspects of teaching methods and practices in the education field.

CONCLUSIONS

This initial action-research enquiry suggests several areas for further research. More rigorous initial and summative assessment, specifically of writing abilities, might produce more conclusive results. In this study the Assessment Tool writing assessment was not administered at the outset due to concerns about its relevance and impact on motivation and anxiety. This meant that the Assessment Tool measures of writing ability pre- and post-intervention could not be used as a measure of change to evaluate the impact of this study.

WHAT NOW?

To be truly advantageous to the prisoners on this course, a longer vocationally-based study of writing skill would help identify whether aspects of writing which showed little improvement during this study (such as punctuation and spelling) could be improved with additional time and focus. On the other hand, these two surface features were not a focus of the study itself, so a lack of change was expected.

This study has highlighted a need for the instructor to consider further research into the links between reading and writing, and the extent to which a reading score on the Assessment Tool tests can predict writing ability. The Action Enquiry project identified a need for the Department of Corrections to explore a range of ways to provide opportunities and encouragement for prisoners to practice, use and enhance their writing skills. Writing is a skill that can be learnt but which requires on-going use to maintain skills (N. Wright, personal communication, 2012).

The task for literacy and numeracy experts in the future could be the embedding of literacy and numeracy into unit standards across all the Industry Training Organisations (ITOs) to the relevant level at which the student is learning. For example, students doing Level 2 should have Level 3 or 4 reading ability. Relevance of trade knowledge combined with writing skills and punctuation should be aligned with the level at which the student is working. Literacy skills, including writing skills, are as vocationally-relevant as knowledge and skills about the use of tools and construction. Trades people should be able to write job applications, resignation letters and prepare written quotes and tenders for work.