

<b>Researcher:</b>	Mark Smith
<b>Project Title:</b>	Extension of Use of Action Research as Real and Applied Research for Improvement of Teaching and Learning at Unitec
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### **Executive Summary**

The Action Research Project in 2011 involved a cluster of 12 action research (AR) projects across 6 departments at Unitec – Languages, Sport, Te Puna Ako, the Library, Foundation Studies and Music. Each project was an individual piece of action research, had specific research questions relevant to the project topic and had its own findings. Each was subject to the normal ethics approval process at Unitec. A meta-evaluation of the effectiveness of action research as a professional development strategy was also carried out.

It was encouraging to see so many first time researchers taking this initial step into investigating their teaching and learning. The results of the meta-evaluation indicated the benefits of this sort of professional development. The other main aim of the project was to ensure that literacy and numeracy interventions were designed and implemented in a step toward ensuring these became business as usual. This was achieved across all the projects.

Another achievement of the project was the cross-disciplinary nature of much of the research. Breaking away from silos saw collaboration between music lecturers and literacy experts, automotive mechanics and academic advisors, lecturers and e-learning advisors, the Departments of Architecture and Languages, Te Puna Ako and the Department of Sport.

Finally, because of the number of projects, a layer of mentors was created to ensure that assistance was available to all researchers. This built capability in the Academic Literacies team which has allowed the project to continue in 2012 despite the departure of Eileen Piggot-Irvine.

### **Background**

For the last three years the NZ Action Research and Review Centre (NZARRC) in the Department of Education has collaborated with Te Puna Ako on the Academic Literacies contract. Together we have provided expert guidance and facilitation in engaging staff from multiple locations at Unitec in AR projects designed to embed literacy and numeracy in targeted programmes and more generally to improve teaching and learning. For the most part the projects were carried out as part of professional development although we did provide a time allocation in one case and Department of Labour funds were available for two of the projects in 2010.

Staff have come from the library, music, timetabling, automotive, nursing, staff development, electrotechnology, sport, foundation studies and animal care. Most of the projects in 2011 resulted in presentations to the Unitec Research and the Learning and Teaching Symposia, the National Teaching and Learning Symposium, and the Literacy and Numeracy Symposium as well as a number of other national and international fora.

The AR projects have required staff to work collaboratively on a project for improvement with a small group (from 1 to 4 staff) from their discipline. The approach to AR adopted has been at the rigorous, evidence-based, end of the AR continuum.

Most importantly, the facilitated approach adopted has provided support and guidance for the researchers involved, particularly novice researchers who traditionally flounder when left to determine how they will embark on research activity (and who teach at levels which do not provide a time allowance for research). Each year we have had an increasing number of participants with 18 projects starting in 2012.

The AR approach was chosen because it fits the Unitec intent of being 'Real'. AR is practitioner-based research where participants work on real issues linked to their role and where the outcomes are intended to make authentic improvements.

## **Aims and Objectives**

### *Objectives:*

- To ensure the sustainability of embedding literacy and numeracy in those programmes involved in the action research
- To extend employment of AR as an approach to engage staff in improvement and development-oriented research that aligns with most, if not all, initiatives on the Learning and Teaching Framework (2010-2015) whose key initiatives are to:
  - Nurture a culture of professional learning and engagement;
  - Provide integrated support for programme (re)development;
  - Support appropriate integration of learning technologies in learning and teaching;
  - Embed academic literacies in learning and teaching;
  - Harness diverse perspectives in learning and teaching; and
  - Develop learner resourcefulness and autonomy.

## **Methodology**

For each individual project there was a different type of data collection, method, analysis and interpretation. The latter elements were strongly guided by the AR expert and projects, in order to proceed, were subject to ethics application scrutiny. Despite variations in method etc, the methodology/approach adopted was identical for all projects, incorporating a number of phases, including:

- *Reconnaissance*, to analyse the existing situation with the topic.  
For example, if the chosen objective were to improve the way lecturers help students to write reports, a first step would be for the group to complete a review of literature/background material on the topic of 'writing reports' in order to distil the demands and the key indicators for effectiveness for the topic. This might be followed by a variety of data collection techniques (eg interviews, focus groups, surveys, documentary analysis) for examination of how both the students and staff perceive help is provided in writing reports based on the indicators for effectiveness. Analysis of responses would follow alongside reflection on the analysis within the AR group, and recording of what is needed for improvement;
- *Implementation*, to plan for and carry out changes indicated by the reconnaissance analysis.  
A detailed action plan is developed to guide improvement carried out within teaching classes. In the AR group, collective recording of progress would occur to compare, contrast and critically reflect on responses. This record would become part of the final project report;
- *Evaluation*, to analyse the impact of the implementation phase changes.  
Data is collected to determine effectiveness of the changes/improvements made.
- *Reporting and Presentation*, to draw together the project findings.  
A formal report is written (and presented) by the AR group. An expectation would be for refereed publications that hold PBRF value to result from this report.

## **Outcomes/findings**

### *Outcomes:*

- An improvement in teaching and learning associated with participants in the projects;
- Research projects that have created a research cluster across Unitec departments and directorates;
- Publication of project reports, journal articles, refereed conference papers that would have a positive impact on the building of individual 'evidence portfolios';
- Support for the Living Curriculum and engagement in research on the scholarship of teaching and learning to determine the effectiveness of interventions.
- Collaboration and diversity across the organisation (cross-disciplinary and inter-disciplinary);

The individual projects and resulting presentations or publications and three project reports are included in the appendices.

## **Conclusions**

Given the nature of the individual projects, each one reached its own conclusions. I have chosen reports for the automotive writing, reading strategies and meta-evaluation as indicative of the outcomes from research. These are included in the appendices.

The feedback on the project as a whole was positive as highlighted in the third report and the fact that 18 projects have been started this year is an indication of staff engagement. Some of these projects are continuations from 2011 while the new ones are with staff who had contact with colleagues who were in the group last year and have decided to take on a project.

The projects, apart from a few driven by TPA staff, are in the SHS faculty and we would like to extend the range to the other faculties.

## **Implications**

The impacts overlap with many of the outcomes noted under the earlier 'objectives' section. Because the projects are applied in terms of an 'improvement to practice' orientation, they had a direct impact on teaching and learning.

There is no doubt that the outcomes from projects have added to the 'stock of knowledge' in varied areas across Unitec. The use of public presentations and wide dissemination of project reports also adds to this 'stock' both inside and outside the institution.

Many of the proposed projects were based in programmes at levels 2 and 3 and looked at the impact of interventions to improve literacy and numeracy. Data on learner levels and improvement came from TEC's Diagnostic Tool and the progress of students, especially in those programmes where research was done, will inform TEC policy on what expectations in literacy and numeracy improvement should be. These projects addressed many of the government's priorities in terms of embedding literacy and numeracy, youth success and progression and provided evidence to inform future strategy and approaches.

## **Publications and dissemination**

These have been itemized in the project table in the appendices

## **Appendices**

- 1. Reports from 3 projects**
- 2. Table of research projects**

## Appendix 1

### 1. Action research project – reading strategies

**Natalie Savery**

I commenced this action research project as part of the Unitec Action Research mentoring group in 2010. Working as an LLN Advisor embedding literacies in the Certificate in Music from 2008 – 2011, I recognised that one of the key needs of these students was reading comprehension. This project was a response to the reading needs of this cohort of students, but was also a pilot intervention examining pedagogy for teaching reading in the LLN vocational classroom. A subsidiary aim was to create a model of reading instruction for tertiary programmes with literacies embedded. I wanted to explore the results of connecting best-practice LLN embedding principles, best-practice reading comprehension instruction, and disciplinary content and teaching.

I used three forms of reconnaissance data collection tools to identify students' reading needs: the AT full on-line adaptive reading assessment, a contextualised music reading diagnostic and an 'Attitudes to Reading' survey. Triangulation of the results from these three forms of data collection showed that reading comprehension and critical reading are key needs of these students. The three most significant reading needs were: making inferences or interpreting, locating information, and identifying main ideas in text. Based on this data, I planned a reading intervention that I delivered with the music lecturer using a team teaching approach. A key component of the action research process was the dialogue between the music lecturer and I as we worked together and reflected on the reading intervention.

At the end of the 12 week intervention I used two forms of data collection to evaluate the reading intervention. The evaluation tools included the AT full on-line adaptive reading assessment and a student survey questionnaire. The evaluation showed slight student reading gains and positive descriptive student feedback on the reading teaching intervention. Comparative analysis of student reading errors on the AT pre and post assessments demonstrated improvement through the targeted components of reading. I felt that contextual constraints reduced the possibility for more significant levels of student reading gains. These contextual constraints or limitations included the 16 week one semester time frame, the limited time dedicated to reading skills instruction and reading skills development within a primarily vocational programme, the minimal degree of 'embeddedness' of LLN across the breadth of the Certificate in Music programme. For this cohort of students, social and behavioural issues, including drug use, also affected reading results.

The pilot cycle of action research will be published in the Journal of Academic Language and Learning (JAALL) in January, 2012. As the results showed only slight reading gains, I taught the intervention again with a new cohort of music students in semester 1, 2011. Results of the intervention in semester 1, 2011 again showed slight overall reading gains. Because the results were once more reasonably positive, I was encouraged to undertake a second cycle of action research in semester 2, 2011 with a larger cohort of students across two disciplines: music and business. I am currently writing up this latest cycle of action research.

#### ***Research published***

Natalie Savery

*Targeted reading comprehension strategies instruction for raising reading levels in tertiary contexts*

<http://journal.aall.org.au/index.php/jall/article/view/181>

## **2. Action research project – writing with blogs in automotive**

**Nick Marsden**

### **Blogging as a way of *smuggling* writing into a course**

We needed to promote literacy in a level three automotive course. Traditionally, little if any writing is done on automotive courses. Our challenge was, how to get vocational trades tutors to start thinking about teaching the skill of writing when encouraging writing was something they'd never considered to be part of their brief.

**Knowing what to do** sometimes means trying something different. An action research project was wrapped around this and the results have been published in ASCILITE's A-Jet journal

Automotive students were encouraged to use blogs to reflect on practical work and to write up workshop tasks. They captured their coursework using video cameras, and were able to add their blogs along with footage of themselves repairing cars, and to use these in their e-portfolios. Engagement went up immediately. Students took pride in the fact that they were using multi-media to showcase their learning. Because we set it up this way, the students didn't complain about writing.

Some of the student power-point presentations were excellent, and usually included film of them working on repair procedures, typically 'pimped' with fly-ins, music, and voice-over. We found this a wonderful way for students to explore their learning collaboratively. Acts of writing increased, and with a little management of blogging tasks, students could be encouraged to reflect critically on what they did. Engagement in writing was enhanced relatively painlessly. When you consider that many of the students had not fared well at school, it represents progress. The other surprise finding was that the more the students were invited to blog about workshop tasks, the more they were happy to write.

We shared our research with several institutions, including Bay of Plenty Polytechnic, Northtec and UCOL. We also presented at a number of symposia.

*Thank you so much for your time and those of the other staff.*

*I left feeling enthused and motivated, so congratulations for taking a traditionally hard area and creating a remarkable breakthrough in delivery style.*

*I am reporting to my exec on the visit and I would expect more interest from our Applied Technology School.*

*Once again many thanks only wish I had more time.*

Duncan

Bay of Plenty Polytechnic

### ***Research published***

Nick Marsden and Eileen Piggot-Irvine

*Using blogging and laptop computers to improve writing skills on a vocational training course*

<http://www.ascilite.org.au/ajet/ajet28/marsden.html>

### **3. Action research project – meta-evaluation**

**Bettina Schwenger**

Each year the Academci Literacies Team completes an evaluative impact study of the Literacy and Numeracy Action Research Projects. Feedback indicates that the projects provide a space, a structured framework and good support for exploring new teaching ideas around embedding literacy and numeracy. Teachers can be as self-directed as they like, however, mentoring is available when needed. All participants have presented about their experiences and projects. All commented that the intervention has been successful, helpful or useful for students. This project is a significant part of Unitec building research capability in its staff.

#### **Voices of the participants:**

*“It has helped me to accept that teaching is interminably challenging and that there are no quick fixes.”*

*“Other professional development initiatives are on the side. The Action Research Project sits alongside the teaching and is part of the process.”*

*“It gave me space to think and reflect rather than trying to improve blindly.”*

*“I think the process encouraged us to be even more explicit with the learners and , while some learners still struggled to achieve, the grades were reasonably high and the quality (of their writing) does seem to have improved. My teaching has become more self-reflective and critical.”*

#### **Research published**

Bettina Schwenger

*Utilising action research and enquiry processes to achieve sustainable academic development*  
([http://www.herdsa.org.au/wp-content/uploads/conference/2010/papers/HERDSA2010\\_Schwenger\\_B.pdf](http://www.herdsa.org.au/wp-content/uploads/conference/2010/papers/HERDSA2010_Schwenger_B.pdf))

## Appendix 2

### Action research projects

	Researchers	Project	Department	Presentation and publication
1	Rob Hooper	Investigating visual literacy with design students	Design and Foundation	
2	Marlene White	How can we increase our older Chinese learners' confidence, participation and success in spoken English?	Languages	Group presentation 2011 Unitec Research Symposium
3	Marcus Thompson	What strategies are most effective in supporting Saudi students' academic development in mainstream, degree-level programmes	Languages	
4	Penny Dugmore	How can we increase the engagement of our distance students with library resources and services using elearning methods, tools and environment to improve information literacy?	Library	Individual presentation Ascillite Conference
5	Nick Marsden, David Clarke	Writing in the Certificate in Automotive and Mechanical Engineering	Automotive, TPA	Journal publication – Australian Journal of Educational Technology 28 (1) Report on National Centre of Literacy and Numeracy for Adults <a href="http://literacyandnumeracyforadults.com/content/search?Search=true&amp;SearchText=marsden&amp;SubTreeArray[]=2">http://literacyandnumeracyforadults.com/content/search?Search=true&amp;SearchText=marsden&amp;SubTreeArray[]=2</a>
6	Kay Hammond	An action research project to initiate and evaluate the development of an e-learning activity for developing paraphrasing skills.	TPA Waitakere	Group presentation 2011 Unitec Research Symposium Individual presentation 2011 Unitec Teaching and Learning Symposium Tertiary Education Research in NZ Conference Association of Tertiary Learning Advisors of Aotearoa New Zealand Conference
7	John Hatet	Corpus vocabulary in an architectural degree	Languages	
8	Tabitha Roder, Nicoletta Rata-Skudder	eLCC Community 2.0 Project - the next phase: Increasing ELCC community participation, perception of capability and confidence	TPA	
9	Joce Service, Margaret Bade	How effective is a task based approach for supporting adult elementary level ESOL learners in speaking English outside the classroom?	Languages	Group presentation 2011 Unitec Research Symposium Individual presentation Unitec Teaching and Learning Symposium
10	Natalie Savery	Examining the effect of reading comprehension strategy instruction to raise comprehension and reading levels	TPW	Individual presentation 2011 Unitec Teaching and Learning Symposium

				Journal publication – Journal of Academic Language and Learning 6 (1)
11	Chris Lynch	Evaluating the student understanding of scientific conceptual models in exercise physiology.	Sport	Group and individual presentation 2011 Unitec Research Symposium Individual presentation 2011 Unitec Teaching and Learning Symposium
12	Katie Bruffy	What are the impacts of introducing social media as a teaching resource amongst two cohorts, level 5 and level 6 sport marketing courses	Sport	Group and individual presentation 2011 Unitec Research Symposium Individual presentation 2011 Unitec Teaching and Learning Symposium
13	Bettina Schwenger	The impact of action research on teachers' professional development	TPA	Group presentation 2011 Unitec Research Symposium Tertiary Teaching and Learning Conference