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# BEGINNING TEACHERS AS TEACHER - RESEARCHERS

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## ABSTRACT

*There has been a growing recognition in the international education community over the last decade of the need to begin the development of teacher-researchers in preservice courses. This paper explores the perceptions of professional empowerment of beginning teachers and their development as active teacher-researchers, drawing on data from surveys conducted in Western Australia of the 1999 and 2000 preservice teacher cohort. Consistent with issues emerging from current literature, the survey data confirmed the over-riding survival mindset of beginning teachers. However, responses also provided evidence of a research mindset open to opportunities later in their teaching career and the professional confidence and skills to become members of a school community of inquiry. A process model is proposed for development of teacher-researchers through preservice course experiences.*

## Introduction

There has been a growing recognition in the international education community over the last decade of the powerful role of teachers as researchers (Darling-Hammond, 1999; Gore & Morrison, 2000; Kemmis, 2001; Rogers, 2002). The potential for understanding the complexity of the school community as an effective learning environment is increased when teachers have the skills and opportunities to take the role of researching within their own school community. The growing recognition amongst teacher-educators of

the need to provide teachers with the collaborative framework and research skills for anchoring research within their classroom practice is articulated by Bauman (1996, p.29):

Teachers must be participants in educational research and development from their first education courses, through their professional development, and on to their service as mentors to new teachers...We need research that helps the institutions and the people who work in them raise questions about their own goals and practice as part of their everyday work. (Bauman, 1996, p.29)

The aim of this paper is to use the unit experience of two cohorts of preservice teachers to explore the ability of beginning teachers to draw on skills and understandings developed in a research focused unit in their final year of a Bachelor of Education. This paper explores the perceptions of empowerment of new teacher-researchers and their opportunities to become involved in school-based research, drawing on data from surveys conducted within Western Australia of the 1999 and 2000 preservice teacher cohort. The surveys questioned the opportunities and context within which the 200 new Edith Cowan University graduates were able to use these research skills in their first workplace.

## The new teacher-researcher role: Challenges and hurdles

There has been a qualitative shift in the notion of the classroom teacher over the last two decades, evidenced in expectations of the dynamic new role of teacher as

reflective practitioner and collaborative member of an educational community of inquiry (Beck, 2000; Darling-Hammond & Snyder, 2000; Gore, 2000; Potter, 2001; Rodgers, 2002). The traditional role of the teacher as the receiver of knowledge of school improvement has been contested over the last decade (O'Donnell-Allen, 2001). There has been growing acknowledgement of the need for the empowerment of teachers through researching their own practice, for teachers to become more aware of the complexities of the school environment, and of teacher research being the self reflection of one's own professional practice (Fueyo & Koorland, 1997; Henderson, Hunt & Wester, 1999; Kemmis, 2001; Keyes, 1999; Patterson, Sumsion, Cross, McNaught, Fleet, Talay-Ongan & Burgess, 2002; Rodgers, 2002).

Teachers with the research skills to share and critique their practice become key collaborative professionals in the change processes within school communities. Moreover, beginning teachers with the skills to engage from the start of their careers in action research or classroom inquiry have the skills to be both consumers and producers of knowledge and the tools to make sense of their practice and problems they face (Darling-Hammond & Snyder, 2000, p.540).

In her recent study of teacher-researchers, Potter (2001, p.128) found collaboration to be the key factor in triggering effective teacher participation in researching their own practice in order to inform school improvement. Findings from the study indicated teachers participating in collaborative research grounded in their own classroom practice felt they were 'accepted as generators of professional knowledge not merely consumers or objects of study.' (Potter, 2001, p.128). The role and voice of the teacher is now considered critical to developing an understanding the relationship between teaching and researching, for it is the teacher who is in the middle of the complex environment of the school and

classroom (Darling-Hammond, 1999; Rodgers, 2002).

The critical role of reflective inquiry in assisting teachers actively and collaboratively inquiry into their practice is described by Rodgers (2002, p.250) as the opportunity to involve teachers in a process that moves from reflecting on experience to description, analysis and finally to action. Structured and collaborate reflection are suggested as key factors in teacher-initiated change of school practice, as the reflective process acts as the vehicle for opening teachers' eyes to a range of perspectives on student learning, offering insights into school and classroom practice and opportunities for local action (Rodgers, 2002, p.235).

This new role of 'teacher-researcher' is considered a critical factor in linking effective teaching practice and continuous professional growth to the processes of inquiry and reflection (Cross, 1987; Goodlad, 1999; Harris, 1998). The generative power of teachers as researchers of their own practice is described by Keyes (1999) as a data driven learning process:

When teachers do classroom research, they begin to view themselves as learners, their classrooms as places where they are learning, and the data collected as data to be understood (Keyes, 1999, p.21).

Teachers who engage in research are considered to have an increased understanding of the complexities of the school community and learning environment (Caro-Bruce & Zeichner, 1998). The reflective practice implicit in any action research projects undertaken by teachers promotes a self and practice awareness with the potential to enhance effective practice through a deeper understanding of themselves as teachers and learners (Breidenstein, 2001; Ferraro, 2000; Zeichner & Liston, 1987). The on-going nature of reflective inquiry allows teachers to make better use of insights gained from their pedagogical and curricular experiences throughout their

careers. (Dinkleman, 1997). Caro-Bruce & Zeichner (1998) describe the teaching practice outcome of teachers involved in their study:

Many teachers told us that doing action research caused them to look at their teaching in a more analytic, focused and in depth way, habits that many claim they have now internalised and made use of subsequent to their participation in the program. (Caro-Bruce & Zeichner, 1998, p.16)

However, the growing expectation for the professional role of teachers to incorporate the role of reflective practitioner and researcher is not easily accommodated by all practicing classroom teachers. The role of teacher-researcher is not only intellectually demanding but it also prompts serious and often difficult questions about classroom practice and learning outcomes (Keyes, 1999). The complexity of the school and classroom environment can act as a barrier to opportunities for teachers to play the double role of teacher and researcher. Within their daily workplace, teachers are faced with challenges concerned with time constraints, relationships within school communities, accountability, system pressure, as well as lack of confidence and experience in the area of research (Potter, 2001).

Moreover, many teachers question the role of research in informing classroom practice. In a recent study of teachers as researchers, Keyes (1999) found teachers did not consider they had the expendable time to take part in research with all the added responsibilities involved in their teaching role. Teachers viewed the research processes of taping lessons, analysing data and interviewing students as simply not feasible to accomplish alongside the daily teaching role (Bauman, 1996; Caro-Bruce and Zeichner, 1998; Keyes, 1999).

A further hurdle in breaking down the barriers between tertiary researchers and

classroom teachers has been the difficulties in the dissemination of university research findings related to school practice. Keyes (1999) found teachers did not read academic research articles related to their professional concerns, as the research was seen as artificial, meaningless and inaccessible. The language used in the articles was considered alienating to a classroom teacher, being too scientific and distanced. One teacher expressed the difficulty faced by teachers in relating to the traditional research discourse by describing the research voice as "...not a voice that teachers naturally recognize as speaking to them" (Keyes, 1999, p.21).

Consistent with these findings, recent studies indicate many teachers, and particularly beginning teachers, do not feel that they can confidently engage in debates on issues within the classrooms (Kincheloe, 1991; Keyes, 1999). Findings of these studies highlight teachers' reluctance to admit to have done any research, maintaining that it wasn't real research, just observation or keeping journals. Teachers' reluctance to acknowledge classroom inquiry as 'research' may well stem from notions of research gained in their degree programs. Teachers would not easily develop a practical notion of classroom or school-based research if contexts and examples offered in preservice training are limited to a formal style of research and projects that involved whole schools or districts (Keyes, 1999).

What is largely missing from literature in the area of teacher research is a sense of how preservice teachers think about research. A recent study by Gitlin, Barlow & Burbank (1999) attempted to bridge this gap by considering how preservice teachers' views of research might inform approaches to inquiry teacher education. Findings indicated that it might be helpful to

∞ investigate with preservice teachers notions of what is research;

- ∞ provide student teaching placements that support research as a form of inquiry; and
- ∞ utilize action research as a bridge to a more traditional form of research.

Many teacher education courses, and particularly those working in close partnership with schools, are incorporating structures and policy to begin to address these findings (Beck, 2001; Cherednichenko & Kruger, 2002; Darling-Hammond & Snyder, 1999; Gore, 2000). The following section of the paper explores a range of institutional responses to the challenge of facilitating the development of beginning teachers as reflective researchers through course and policy structure.

### **Facilitating development of beginning teachers as teacher-researchers**

As outlined above, there are a range of hurdles to be faced by teachers and their researcher colleagues in providing a school context supportive of the development of participating teacher-researchers. These hurdles include:

- ∞ Incorporating the researcher role within the teacher role;
- ∞ Providing opportunities for teachers to recognise and develop their practical research skills;
- ∞ Breaking down the discourse barriers in published research reports;
- ∞ Increasing teachers' confidence and skills to critically review current policy

Goodlad's (1999) proposition that empowerment of teachers as researchers must come from a restructuring of teacher education can be extended to facilitating the development of beginning teachers as reflective teacher-researchers. Restructuring teacher education programs to encourage beginning teachers to inquire into the nature of teaching and schooling would be a positive move in incorporating the teacher-researcher role into the professional expectations within a school community (Goodlad 1994, 1999).

Many teacher education institutions are now engaged in some form of action research related to the training of preservice and in-service teachers, offering a range of models for anchoring the teacher education curriculum with the concept of teacher as researcher (Beattie, 2000; Fueyo & Koorland, 1997; Henderson, Hunt & Wester, 1999; Kemmis, 2001; Keyes, 1999; Patterson, Sumsion, Cross, McNaught, Fleet, Talay-Ongan & Burgess, 2002; Rodgers, 2002).

Common assumptions and characteristics of these models include:

- ∞ Preservice teachers view themselves as beginning teachers and also view the schools at which they start through a 'teacher as researcher lens';
- ∞ Teacher as researcher as the curriculum strand tying the preservice teacher to the cooperating teacher, providing the common language and melding theory and practice;
- ∞ Teacher as researcher as the framework within which all other discussions of teaching and learning occur, not one course among many;
- ∞ School-based mentor teachers to provide preservice teachers structured, on-going participation in reflective analysis and research into the running and pedagogy of the class;
- ∞ A framework for collaborative reflective inquiry to assist a deep understanding of informed teaching in response to student learning.

Introducing the concept of teacher as researcher into preservice teacher education provides a double opportunity to reinvigorate the mentor teachers as classroom researchers along with developing a research mindset amongst preservice teachers as they view the content and processes of their courses and field work right from the beginning of their teacher preparation program (Keyes 1999).

The question remains, however, whether graduates of preservice courses incorporating a research component in curricula will undertake further research on

completing their degree. With special reference to her own program, Ross (1987) warns:

The demands of first-year teaching and the structural constraints of most teaching contexts make it highly unlikely that PROTEACH graduates, or any other novice teachers, will conduct formal action research project during their beginning years of teaching. The goal of an action research course is not to make researchers of preservice teachers, but rather to help them view teaching as integrally related to research and as a process that involves inquiry and experimentation. (Ross, 1987, p.147)

There is growing evidence to suggest developing a teacher-research focus in preservice courses assists novice teachers develop perceptions of empowerment and professionalism, increased understanding of the complexities of the role of a teacher and the ability to critically reflect on their (and others') teaching practices (Valli, 2000). Caro-Bruce & Zeichner (1998) found the nature and impact of a teacher professional development program in action research highlighted the empowerment of teachers as researchers. Beginning teacher-researchers in their study developed a raised awareness of development of mutual collegial respect, along with an increased confidence in their collective capacity to produce valuable teacher-knowledge. The professional renewal reported by teachers in the study and triggered by participation in school-based action research is described below:

Many teachers reported that their participation in the program helped them develop more confidence in their ability as teachers to influence their work and the circumstances in which they practice. They argue that they now feel a greater sense of control over their work and are more proactive in dealing with situations that arise. Action research was an energizing and validating experience for many teachers. (Caro-Bruce & Zeichner, 1998, p.33)

Breidenstein (2001) included qualitative research included in the curriculum of a teacher preparation program in order to focus on 'learning from teaching' rather than the previously emphasised 'learning how to teach'. The outcomes of the preservice teachers' qualitative research fell into four distinct areas:

- ∞ classroom inquiry,
- ∞ collegial inquiry,
- ∞ pedagogical inquiry and
- ∞ reflective inquiry.

Teaching and researching were seen as complex and multi-faceted skills, however the research project initially engendered more anxiety and resentment as it was seen to be more of an academic requirement. However, modelling the process of researching their own teaching practice and acknowledging the complexities of teaching demonstrated a commitment to preparing teachers who will continue to learn from their own teaching experiences (Breidenstein 2001).

The increased understanding of the preservice teachers in the areas of self as teacher, curriculum content, students (learning, needs and perspectives), teaching, roles and responsibilities, collaboration and the action research process can therefore be attributed to teachers conducting research and completing research related units in their degree programs. (Rock, 1999; Valli, 2000; Zeichner, 1986)

A twelve month study by Knecht (1997) explored the role of action research and reflection in relationships of student teachers with school-based cooperating teachers engaged in action research. Findings indicated that for a preservice teacher education program to effectively engage students in the importance of teacher research, a formal compulsory requirement needs to be in place. Suggestions were made for a framework for reflection, students becoming co-researchers with cooperating teachers, and university supervisors or lecturers acting as

trainers for reflective, inquiring teaching practice.

A more recent study conducted by Ginns, Heirdsfield, Atweh, & Watters (2001) explored the role of participatory action research as a way of supporting the transition of beginning teachers from university study into the profession and enhance professional growth during the first year of teaching. However, the beginning teachers were novices in the research process and, for a considerable time, seemed overawed by the study and their role in it. In their struggle to establish their credibility as a teacher along with maintaining their action researcher role, the expected benefits of empowerment as a beginning teacher and the ability to critically evaluate their current practice as an action researcher were compromised.

Ginns et. al (2001) concluded that the exposure of their teachers to the action research experience did not happen soon enough. Recommendations were made for the need to commence the development of teachers' understanding of action research in preservice teacher education programs, rather than in the beginning years of teaching. It was suggested that a course requirement to engage in research in the final year of preservice programs would play an important role in the structured developing an awareness and understanding of the research process. Such a requirement would also provide an ideal platform for developing beginning teachers with the skills and confidence to conduct their own research project in their own classrooms, thus furthering their professional growth.

The emerging practitioner-research movement currently supported in the development of educational communities demystifies the research process and assists teachers to research with tertiary colleagues, rather than be researched (Australian National Schools Network; Quality Teacher Programs). Kemmis (2001) summaries the reasons for the support of the practioner-research

movement by classroom teachers and other members of a school community.

They aim for forms of research and action that are inclusive, engaging and enabling for those involved in and affected by the work of education- locally and in association with interested others elsewhere. They want forms of research that can make a difference in the real social relationships of their schools and communities, that can strengthen individuals' knowledge and collective cultures, and can develop the capacities and identities of all of the people involved (Kemmis, 2001, p.17).

For teachers to be ready to take part in such inclusive, practice-based research requires development of beginning teachers with a

- ∞ a research mindset and the confidence to recognise and collaborate in research opportunities within their school community;
- ∞ the confidence and ability to articulate a critical response to policies affecting their practice;
- ∞ the professional awareness and confidence in an assessment driven educational environment.

Clearly, the appropriate place to begin the development of teacher-researchers in order to achieve these outcomes is the preservice course. A course structure which provides opportunities for students to develop practical research skills in a classroom context, and provides a framework for preservice teachers to develop skills and processes necessary for reflective inquiry, would optimise the development of teacher-researchers able to take an active research role in their school community.

### **ECU response to the identified need for teacher -researchers**

To assist in helping preservice teachers to develop necessary skills and processes for taking the role of teacher-researcher, it became mandatory for all ECU preservice teachers to develop practical research skills before graduating. These skills could be

evidenced in a range of units, each designed to help preservice teachers develop a professional mind set as a new member of the teaching profession, alongside the teaching and learning aspects of their professional practice. The research focus on classroom practice is to assist development of the skills to take an active role in providing an understanding of the complexity of the school community as a learning environment and associated changes. It was intended that Bachelor of Education graduates would incorporate into their professional practice a recognition of their responsibility to be aware of the research behind any proposed changes in practice within this learning environment. The research focus was intended to encourage reflection on their own professional practice and prepare preservice teachers to actively contribute to the current educational debate surrounding these issues.

In an effort to provide the opportunity for preservice teachers to develop a professional research awareness in their workplace, a set of research units were developed as an essential element of the Bachelor of Education program to assist develop skills in

- ∞ Critical evaluation of current research findings
- ∞ Analysis of outcomes data in relation to research findings
- ∞ Identification of a researchable problem related to some aspect of teaching and learning in both the classroom and the broader school environment.
- ∞ Selection and implementation of appropriate methodologies for investigation of classroom and school-based challenges.
- ∞ Identification, analysis and reporting of classroom based research

The research units were deliberately placed at the end of students' longest practice experience, their Assistant Teacher Program (ATP). It was designed this way so that the student would be able to reflect on the concepts developed in the teacher

research unit, with their hands-on experience fresh in their mind. It also became evident that students wanting to have more mentoring experience in light of their research unit could go back to the school that they did their ATP with, and feel comfortable enough to engage in teacher research.

In 1999, students had a choice of five research specific units in the final year of their Bachelor of Education. All of these units were learning area specific except for EDU4102: Research Skills for Beginning Teachers, which instead contained more generic teacher research skills. This unit attracted by far the most students (n=190), from the Early Childhood, Primary and Secondary programs.

#### ***The research unit EDU 4102:***

The unit EDU 4102: Research Skills For Beginning Teachers acknowledges that for beginning teachers to successfully be able to learn on site, teachers need to 'acquire first, the disposition to inquire about school practice in a self-critical kind of way and second, the suite of inquiry skills that can be used to examine professional practice' (Angus, Gray, & House, 2001, p.2).

One of the main purposes of the unit is to provided students with the ability to collaborate with colleagues on school-based research activities, compute and interpret basic descriptive statistics, produce and interpret graphs and tables of means and standard deviations, produce written reports that present qualitative and quantitative data. Another main purpose was to assist students to acquire school and classroom research skills.

The unit provides opportunities for students to work collaboratively in analysing sets of student outcomes, conducting interviews and reporting results in narrative form, systematically observing a classroom situation, conducting surveys and reporting the results in qualitative and quantitative forms, conducting focus group discussions and analyzing a data base of



information about student learning. Finally, there is a strong emphasis on the students fully understanding key concepts in the research field such as benchmarking, statistical significance, experimental control, action research and validity and reliability.

Although the skills provided in EDU 4102 are skills for teachers conducting research in their school to improve practice, the term 'action research' has been avoided. This is purely because over the years there has developed a particular meaning and fixed set of steps for action research, and the skills taught in this unit can be applied in a mixture of ways and purposes related with school improvement.

### **Methodology**

The ECU students in the fourth year of their education degree had to complete, as a requirement for graduation, one of five research units.

*2000 Survey:* A survey was constructed to determine whether the first cohort of ECU students to complete a research specific unit in their final year of a Bachelor of Education were able to draw on the research skills and understandings in their first year as teachers. The two-page survey collected demographic data related to the time, location and nature of the first teaching appointment and the research unit undertaken during 1999. Twelve questions were posed using a 5 point Lickert scale.

The questions were developed around three key issues identified from the literature:

- ∞ the development of a research mindset and confidence;
- ∞ professional awareness and confidence to take part in current policy debates; and
- ∞ the ability to recognise opportunities to integrate research into classroom practice and the broader school community.

The over-arching theme of the survey was to explore the perceptions of empowerment of beginning teachers as collaborative researchers of their own and their

colleagues' practice as they develop a sense of professionalism.

All 210 graduates from the 1999 Bachelor of Education cohort were sent a copy of the survey in September 2000. To maximise the potential to locate the graduates, the postal address registered by graduating students at the Graduation Office was used. It was considered appropriate to survey the cohort as late as possible in the first year of teaching, to maximise opportunities for beginning teachers to develop research awareness in their new school environment.

However, as many students had taken up teaching positions in the country, were travelling overseas, or had simply changed their address, the potential to contact the cohort was compromised. Despite this problem, the return rate for the survey in 2000 was 25% (50/210), with an alpha reliability value of 0.8102. Responses were coded, collated and graphed using SPSS for Windows, Version 10.

The profile of the responding students indicated most were employed in metropolitan public schools, most had been appointed at the beginning of the school year and were teaching in their preferred learning area and age group. By far the majority of respondents had completed the research unit EDU4102.

The 2000 survey was conducted across all of these research units. However, as the majority of students enrolled in EDU4102, the 2001 survey was only carried out on these students.

### *2001 survey:*

To further explore the transference of research skills and understanding for preservice teachers in their first year of teaching, the same survey was administered to the cohort of final year Bachelor of Education students who had taken the generic research skills unit EDU4102 in 2000 (n=200). Once again, to maximise the potential to locate the graduates, the postal address registered by

graduating students at the Graduation Office was used. As before, responses were coded, collated and graphed using SPSS for Windows, Version 10.

There were 59 responses from the students (30% response rate). The fairly low return rate was thought to be due to the fact that the addresses that were available to the research team were at least 9 months old and upon leaving University, many students has moved address. However, as in 2000, the alpha reliability value was a credible 0.8106. As in the previous year, the results of the survey showed that most of the new teachers were teaching in at least one of their preferred areas and year group. Most teachers were in larger schools with more than 25 staff, and mostly in metropolitan areas. Almost all were in metropolitan public schools, employed at the beginning of 2001 and in full time employment.

## **Findings**

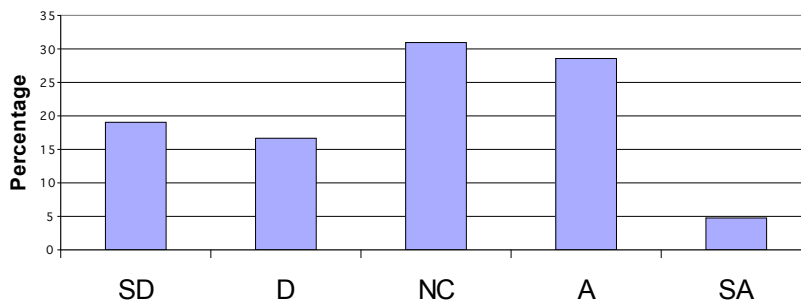
### ***1. Research confidence and mindset***

Consistent with issues emerging from the literature, the survey data confirmed the over-riding survival mindset of beginning teachers in their first year of teaching. However, the responses also provided evidence of a research mindset open to opportunities later in their teaching career, and a professional confidence and awareness of current policy.

Beginning trends in the survey data from both the 2000 and 2001 cohorts were consistent. To simplify presentation of these trends, only the graphs from the 2001 cohort are presented, with commentaries indication any shift in responses from those of the 2000 cohort. The categories used in the graphical presentation of the five point Lickert scale responses are Strongly Disagree (SD), Disagree (D), Non Committal (NC), Agree (A) and Strongly Agree (SA).

The graphical representation of responses to the 12 questions has been further arranged by theme. Three categories were evident in the data: research confidence and mindset; professional awareness and confidence; integrating research into practice. Each question has been sequenced below with appropriate graphical representation under these three categories.

## Teachers in my school engage in school-based research



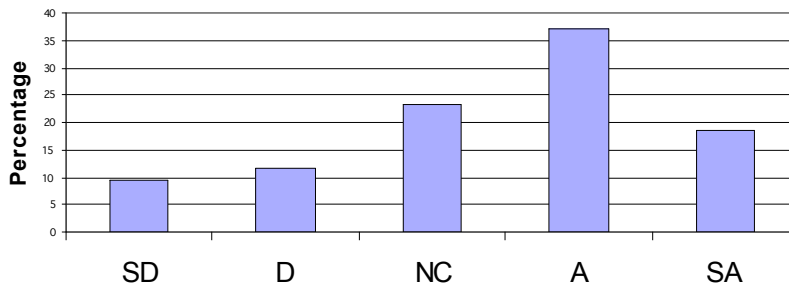
Research activity in schools: The 2001 data indicated an increased awareness by beginning teachers of teachers in their school engaging in school-based research (21 per cent indicated teachers in their school were engaged in school-based research in 2000; 34 per cent indicated similar experiences in 2001). The students' experiences reported here are consistent with suggestions that a teacher-researcher focus in preservice courses increases the awareness of research activities and professional expectations (Rock, 1999; Valli, 2000; Caro-Bruce, 1998). The relatively small proportions aware of school-based research (less than 40 per cent) is also consistent with beginning teachers' focus on the more immediate territory of their classroom, rather than their school (Keyes, 1999).

The proportion of respondents who were undecided fell from 42 per cent in 2000 to 31 per cent in 2001, indicating students were more certain in their responses in 2001. There are many reasons why

students may have responded with more certainty in 2001. Staff teaching the unit may well have articulated the notion of research more successfully in teaching the unit a second time. School communities were more in tune with the system expectations of action research within schools and districts, heightening beginning teachers' research awareness in context.

There was little variation in the proportion of beginning teachers who were not exposed to school-based research (33 per cent in 2000; 36 per cent in 2001). Again, it is reasonable to assume a third of schools reported in this study are not currently undertaking in action research projects. It is also reasonable to assume a third of the beginning teachers were either unable to recognise research in context, or were simply not yet interacting with staff in schools who may have been active teacher-researchers. Many beginning teachers are in survival mode and sympathetic colleagues would be unlikely to add research to their workload.

## I can see opportunities for teacher research in my school



### Recognising research opportunities:

Consistent with responses to the previous question indicating awareness of research in their school community, both sets of data clearly indicate that beginning teachers can see opportunities for teacher research in their school setting, (49 per cent agreed in 2000; 56 per cent agreed in 2001). The responses indicate beginning teachers' ability to see research opportunities, questions to explore, data to analyse. Although there is no evidence to justify a claim, it is reasonable to assume this research awareness to be at least partly an outcome of the preservice training (Knecht, 1997; Ginns et.al. 2001). Again, the increased proportion of beginning teachers in 2001 able to recognise researchable issues in their school could well be influenced by current system wide resource support for school-based action learning.

The proportion of undecided responses showed little variation (35 per cent in

2000; 32 per cent in 2001) as did the proportion of beginning teachers who

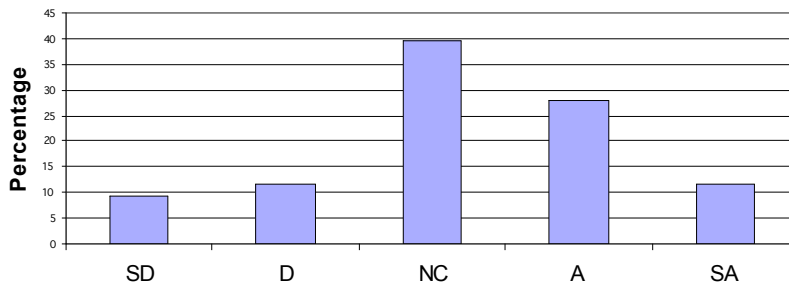
could not recognise research opportunities in their school (16 per cent in 2000; 21 per cent in 2001).

the increased proportion of beginning teachers in 2001 able to recognise researchable issues in their school could well be influenced by current system wide resource support for school-based action learning.

The proportion of undecided responses showed little variation (35 per cent in 2000; 32 per cent in 2001) as did the proportion of beginning teachers who

could not recognise research opportunities in their school (16 per cent in 2000; 21 per cent in 2001).

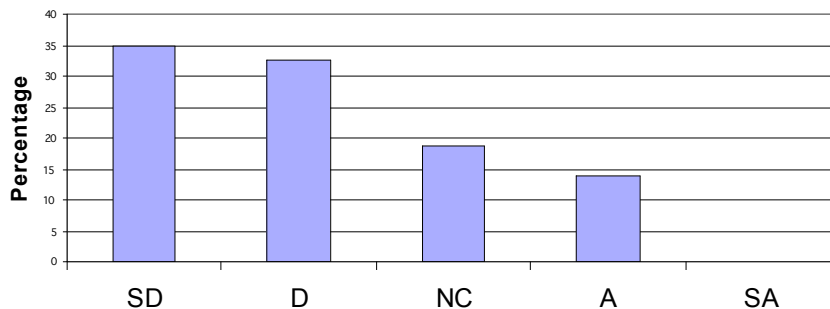
## I can see opportunities for teacher research in my classroom



Similarly, the data clearly indicated that many beginning teachers can recognise opportunities for teacher research in their own classroom (44 per cent agreed in 2000; 40 per cent agreed in 2001). The data indicates beginning teachers' awareness of opportunities for inquiry into practice in their classroom and the value of reflection on their own practice, despite the challenges faced in their initial teaching experience (Potter, 2001).

Again, the proportion of undecided responses showed little variation (37 per cent in 2000; 40 per cent in 2001) as did the proportion of beginning teachers who could not recognise research opportunities in their classroom (18 per cent in 2000; 21 per cent in 2001).

## I have been an active teacher researcher in my current position



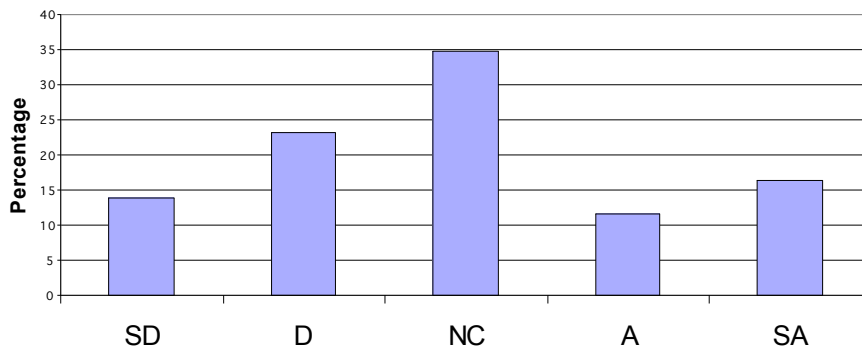
Teacher-researcher activity: As expected, most beginning teachers had not yet overcome the challenges and hurdles associated with becoming a teacher, let alone a teacher-researcher. Some of the 2001 survey responses were annotated with comments such as "You must be joking!", "Maybe next year" and "I'm only just

surviving here. No time for research.", indicating the level of stress for many beginning teachers in the first year of teaching. It is no surprise that both sets of data highlighted the lack of participation in teacher research by beginning teachers (Keyes, 1999; Potter, 2001; Rodgers, 2002; Ross, 1987). 63 per cent of respondents in 2000 and 67 per cent of the 2001

respondents indicated similar experiences. As with the beginning teachers in the study by Ginns et.al (2001), the beginning teachers were indicating that the struggle to establish credibility as a teacher compromised any opportunity or desire to play the combined role of teacher-researcher in the very early stages of their career.

Although the proportion of respondents who indicated their active role as a teacher researcher showed little variation (12 per cent in 2000; 19 per cent in 2001), the data indicated a move towards more certainty in responses (26 per cent were undecided in 2000; 19 per cent in 2001).

### I have not drawn on my research skills to meet classroom challenges

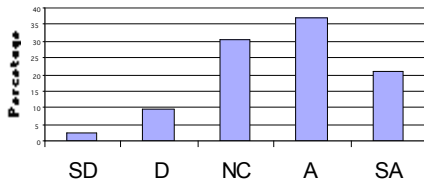


Using research skills: Both sets of data indicated that less than half the students had used their research skills in the classroom in their initial year of teaching. 31 per cent of respondents in 2000 indicated they had not drawn on their research skills to meet classroom challenges; 28 per cent of respondents indicated similar experiences in 2001. These findings again concur with issues raised in recent studies by Potter (2001). However, a similar proportion of respondents indicated they had used their research skills in the classroom (38 per cent in 2000; 37 per cent in 2001). Since a third of the beginning teachers in each

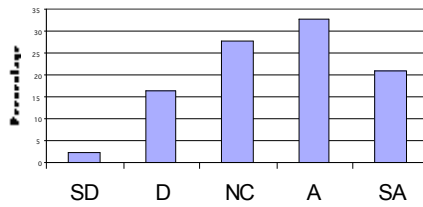
cohort were unable to make a decision as to whether or not they had used research skills in their classroom, (34 per cent in 2000; 35 per cent in 2001) it seems differing notions of research skills could be influencing responses. As indicated by Gitlin, Barlow & Burbank (1999), it would be helpful to investigate with preservice teachers' notions of what is research, and in this case, what are research skills. Feasibly, a greater proportion of beginning teachers could be using research skills in their classroom. This issue needs to be explored with future ECU cohorts.

### I am comfortable interpreting data in the form of standardised tests

**outcome data**



**standardised tests**



Interpreting quantitative data: Both sets of data clearly indicate that beginning teachers are becoming increasingly comfortable interpreting both outcome and standardised test data. 58 per cent of respondents in 2001 indicated their comfort in interpreting outcomes data (49 per cent in 2000). This trend was repeated in the proportion of respondents who indicated their comfort in interpreting standardised test results (54 per cent in 2000 and 2001). Analysis of quantitative data in context was a key focus of action research examples explored in the unit. Consistent with the outcomes of Keyes' (1999) study, beginning teachers who have been given the opportunity to develop research skills

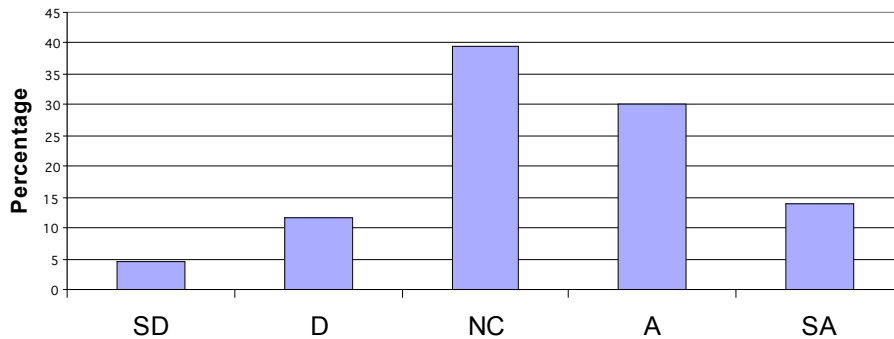
in context are empowered by the data driven learning process. It is reasonable to assume the survey data indicates the successful transferal of these skills into the professional life of beginning teachers, allowing them the tools to make sense of their practice

(Darling-Hammond & Snyder, 2000).

Less than 20 per cent of beginning teachers in either 2000 or 2001 indicated their lack of confidence in interpreting outcomes data (18 per cent in 2000; 11 per cent in 2001) or standardised test data (14 per cent in 2000; 18 per cent in 2001).

## 2. Professional awareness and confidence

### I consider reading policy/government reports to be part of my professional role



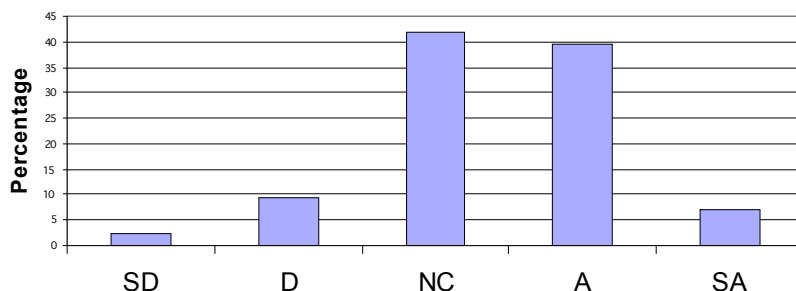
Using policy documents: The data shows a strong indication that beginning teachers considered reading policy reports was a

part of their professional role (53 per cent of respondents agreed in 2000; 44 per cent agreed in 2001). This indication of professional growth through research awareness mirrors findings of Breidenstein (2001), Ginns et. al. (2001), Rock, (1999) and Valli (2000).

Although the small proportion of respondents who disagreed with this statement in 2001 (21 per cent in 2000; 17 per cent in 2001), the 2001 data indicated an increased proportion of respondents who were not sure of this definition of their

professional role (27 per cent were not sure in 2000; 40 per cent in 2001). The doubling of respondents expressing concern as to whether reading policy documents is part of their professional role is of concern. It would be interesting to know the nature of the school context for these respondents, in relation to staff perceptions of empowerment and reflective inquiry. Perhaps, as Potter (2001) found, for these beginning teachers the complexities of the teaching environment have compromised all involvement in contexts other than the immediacy of the daily classroom tasks.

### I have the skills to critically analyse such reports and articles



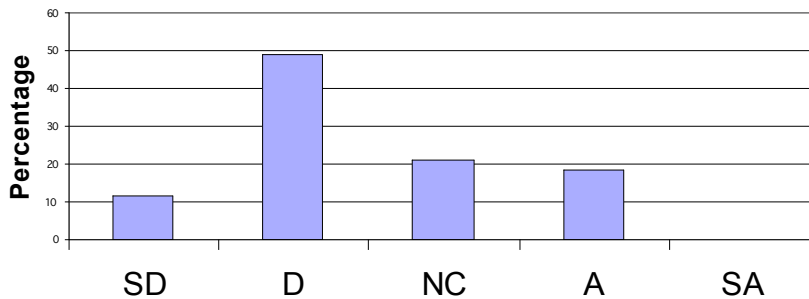
Policy analysis skills :A similar pattern emerged in the proportion of beginning teachers who indicated they have the skills to critically analyse reports and articles. Both sets of data indicated a strong positive response to this question, with 54 per cent agreeing that they had the required skills in 2000 and 47 per cent agreeing in 2001. Not only do half the beginning teachers consider critical awareness of policy to be part of their professional role, they also consider themselves capable of undertaking this role.

Although less than 20 per cent of beginning teachers indicated their lack of skills to critically analyse reports (19 per

cent in 2000; 11 per cent in 2001), an increasing proportion of respondents were not sure of their skills to undertake this task (28 per cent in 2000; 42 per cent in 2001). Again, the doubling of respondents expressing concern as to their skills to critically review a policy document is of concern. Questions need to be asked about the change in policy documents in 2001, and changed expectations at school level to respond to these documents. Consistent with findings by Gitlin, Barlow & Burbank (1999), it would be helpful to explore preservice teachers' notions of critically analysing a policy document.



## I do not have the confidence to articulate an informed position on current issues



### Confidence to articulate a position:

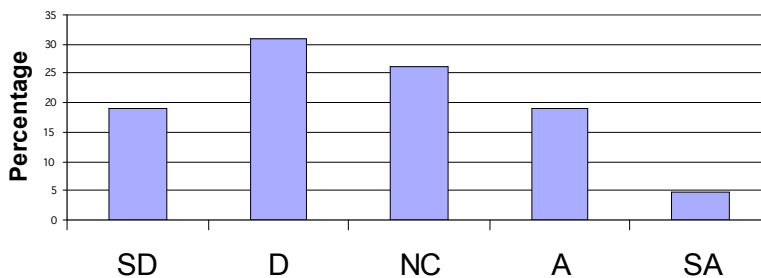
Contrary to findings from previous studies (Kincheloe, 1991; Keyes, 1999), beginning teachers made a clear statement of their confidence to discuss current issues. Both sets of data indicate an increasingly strong affirmative answer from beginning teachers when asked if they felt confident to articulate an informed position on current issues (49 per cent in 2000; 61 per cent in 2001). The 20 per cent discrepancy between the proportion of respondents who claimed they didn't have the skills to critically analyse current issues/policy (42 per cent in 2001) and the 61 per cent who claimed the confidence to discuss these issues could well be related to the academic discourse issues posed by Keyes (1999). Beginning teachers may feel more confident in claiming their ability to 'articulate a position' rather than 'critically analyse a policy document'.

Less than 20 per cent of respondents indicated their lack of confidence in articulating as informed position on current issues (18 per cent in 2000; 19 per cent in 2001).

### ***3. Integrating research into practice***

Responses to both questions in this category were consistent with findings of previous studies indicating beginning teachers did not consider they had the time to consider changes in their classroom practice based on research findings (Bauman, 1996; Caro-Bruce & Zeichner, 1998; Keyes, 1999; Potter, 2001). Consistent with Keyes' (1999) suggestion that the discourse of academic journals is a barrier for teachers, there was no indication that teacher were reading journals, or that these journals provided the stimulus for change in classroom practice.

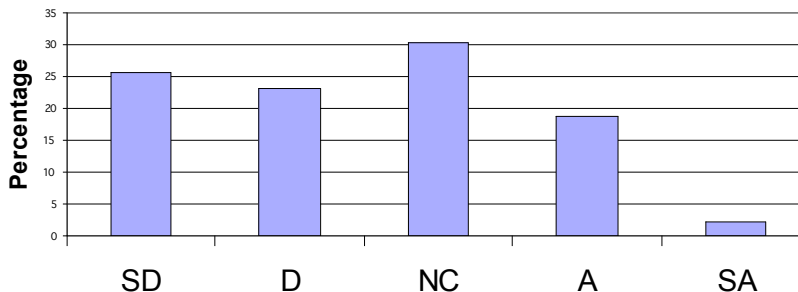
## I have incorporated current research findings into my professional practice



Using current research findings: Although half the respondents in 2001 had not incorporated current research findings in their professional practice (30 per cent in 2000; 50 per cent in 2001), the 2001 data indicated beginning teachers are more confident in responding to this definition of

their professional role (46 per cent were not sure in 2000; 27 per cent were not sure in 2001). 24 per cent of beginning teachers in 2001 indicated they had incorporated current research into their practice (31 per cent in 2000).

## I have tried some of the ideas I have read in teacher journals this year



Journal articles: A large proportion of beginning teachers indicated that they had not used ideas from teacher journals (40 per cent in 2000; 49 per cent in 2001). Only 21 per cent of respondents in 2001 indicated they had tried some of the ideas they had read in teacher journals during the year (33 per cent indicated they had tried ideas from journals in 2000).

Creating and sustaining a culture of inquiry is an on-going cultural change for many school and classroom communities. It takes time and planning to enhance skills, change attitudes, and overcome constraints. More importantly, it takes teachers with the skills and mindset to recognise and act upon research opportunities within their classroom and within their broader learning environment (Darling-Hammond, 1999; Gore & Morrison, 2000; Kemmis, 2001; Rogers, 2002). For beginning teachers, these skills are not necessarily easily developed in situ. Far better to begin as a teacher with research skills developed in context. The concept of teacher as

## Conclusions

researcher must be initiated in preservice programs, but developing competence is a gradual process only begun in preservice training and continuing throughout a teacher's career for professional growth (Darling-Hammond & Snyder, 2000; Goodlad, 1999; Gore & Morrison, 2000; Santos, 1994).

Engaging preservice teachers in structured teacher research enhances understanding of students and teaching, providing opportunities for them to examine and challenge previous beliefs and assumptions about students (Woods, Karp & Escamilla, 2000). Developing a teacher researcher mindset provides teachers an opportunity to further their sense of the complexities of the school community and learning environment as well as reflecting on their own practice and professional knowledge. The question is how and when to help beginning teachers develop such skills and recognise research opportunities.

*Three key issues were identified in the literature as justification for introducing a compulsory research oriented unit in the final year of the ECU Bachelor of Education course:*

- ∞ The need to develop an understanding of how preservice teachers think about research in their school community and classroom (Gitlin, Barlow & Burbank, 1999; Ross, 1987);
- ∞ The need in preservice teacher education programs for a formal, compulsory research skills requirement in order to effectively engage students in the importance of teacher research; (Breidenstein, 2001; Rock, 1999; Valli, 2000);
- ∞ The best time to commence the development of teachers'

understanding of action research is in the preservice teacher education programs (Darling-Hammond, 1999; Ginnes et.al. (2001); Knecht, 1997).

The survey results from the beginning teacher cohorts in 2000 and 2001 provide an opportunity for the ECU education community to " help the institutions and the people who work in them raise questions about their own goals and practice as part of their everyday work"(Bauman, 1996, p.29). It can reasonably be claimed that the introduction of the compulsory research unit focusing on building generic research skills has begun this process for new graduates in their initial school appointment.

Although the results can only be considered as indicative of the beginning teachers' sense of a professional mindset for integrating research into their practice, three defining factors for the development of teachers as researchers can be identified:

- ∞ The development of a research mindset, skills and confidence to initiate reflective inquiry processes;
- ∞ The development of professional awareness and confidence in an assessment driven environment;
- ∞ The empowerment related to confidently articulating and critiquing policy.

The combination of these factors in the context of the transition from preservice research experiences to teachers researching their own practice can be seen as process for the development of a school-based community of inquiry. Figure 1 outlines this process model for teacher-researcher formation.

research in their school, and to a lesser

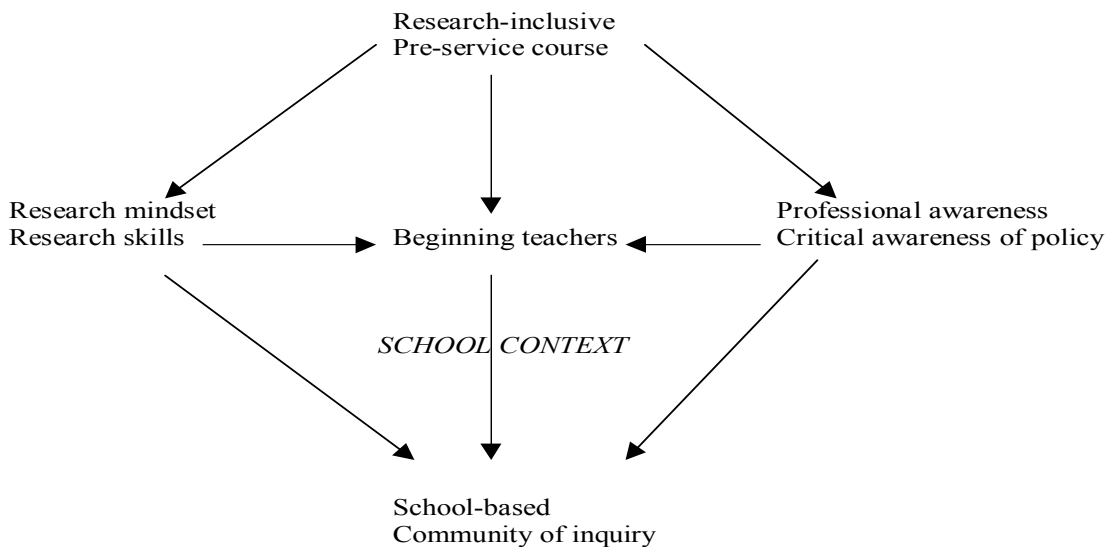


Figure 1: A process model of teacher-researcher formation.

A research inclusive preservice course offers opportunities for students to develop a research mindset and a suite of research skills enabling them to confidently make data driven decisions related to the processes of teaching and learning. The research focus in preservice experiences offers increased opportunities for the development of professional awareness and a critical awareness of current educational policies. For beginning teachers, such research inclusive training offers the opportunity for easier transition into the role of teacher-researcher in a school based community of inquiry. This process will always be subject to a research supportive school context.

From this perspective, beginning trends from the survey data indicate the ECU preservice focus on developing beginning teachers as teacher-researchers has positive outcomes. The beginning teachers from both cohorts felt equipped to take an informed position on policy issues, and considered such expectations to be part of their professional practice. Both cohorts could recognise opportunities for teacher

extent in their classroom. The exposure to research skills in context had created a mindset for observing research, including recognition of the value of research findings in their professional practice.

It is hardly surprising to find the ECU cohorts had not yet become involved in research within their schools or classrooms, even if research projects were being undertaken within their school community. In the first year of teaching, the focus for beginning teachers's survival. Most beginning teachers have not yet developed the professional knowledge or confidence to actively undertake reflective classroom research (Keyes, 1999; Kincheloe, 1991; Potter, 2001; Rodgers, 2002).

However, when beginning teachers begin their career with research awareness and related skills, and are working in a collaborative teaching environment with more experienced, like-minded colleagues, they are better positioned to integrate research into their practice. The school context is a critical factor in the on-going development of a school based community of inquiry. There has been a distinct increase in school-based action research in the Western Australian school

communities over the last three years, as evidenced by the increased funding and participation of schools in the Quality Teacher Program (Department of Education, WA, 2000-2002). Funding and professional development has been available through this program to encourage teaching staff of public schools to undertake collaborative action research projects within their schools. As both preservice and beginning teachers from ECU have become more exposed to the growing research-aware communities, it is reasonable to expect the parallel growth in their research mindset indicated in the 2001 survey data. This is an encouraging outcome in the move to provide preservice and beginning teachers with the collaborative framework and research skills for anchoring research within their classroom and professional practice.

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