THE BENEFITS OF ADULTS LEARNING NUMERACY

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We examine the benefits of adult numeracy learning in the current Australian context by drawing on Schuller's framework for analysing the benefits of learning in terms of three capitals: human capital, social capital and identity capital. We argue that although the current adult education policy framework in Australia is biased towards the achievement of only one of the three capitals – human capital, the practices of experienced adult educators help to extend the benefits of learning to encompass identity and social capital benefits. We take a case study of a numeracy workshop in an Adult Basic Education (ABE) program in Australia to show how one teacher exemplifies teaching practice that despite the policy gap, helps her learners reap a range of benefits from their numeracy learning.

INTRODUCTION

Interpreting the goals of adult education and training primarily in terms of labour market outcomes has been the norm among public policy makers in Australia since the early 1990s. Adult Basic Education (ABE) programs on the other hand, have been characterised as 'second chance' education for those who were not successful in their experiences in formal schooling or who did not have the opportunity to fully participate in schooling as a child. For many ABE learners, the benefits of participation in literacy and numeracy classes are not only linked to the acquisition of skills for employment; they are linked to broader social and personal benefits such as inclusion and participation in a social network, and increased self-confidence.

In 2006 we were funded for a project on "Sharing Innovative Best Practice in Adult Literacy and Numeracy" to research and produce a DVD resource with case studies of teaching practices of experienced adult literacy and numeracy teachers. The project was motivated by awareness among experienced ABE practitioners and those of us involved in teacher development that much of the ABE practices that are founded on important social justice principles was at a risk of being "lost". This was because those who have developed these practices were nearing retirement, and there was an absence of policies that supported any genuine renewal of these broader dimensions of ABE.

In the course of our project we met with a number of experienced ABE teachers, some identified by us and others by their practitioner colleagues. The interviews with the teachers and their learners and observations of their classes revealed some common attributes among the teachers. These were that 1) these teachers can articulate a pedagogy that is critically grounded in their experience and philosophy about teaching; 2) these teachers see connectedness with the learners and their lives as central in their roles; and 3) their philosophies are observable and demonstrable in

their actual teaching practice. The views of the learners in the classes showed that they were benefiting in more ways than just skills acquisition.

In this paper we will focus on one of the case studies of our project - a numeracy workshop in an ABE program. We will look at what the teacher and the learners say about the class, and examine this using the framework developed by Schuller (2004). The framework provides a way of looking at learning by focussing on three types of benefits: human capital, social capital and identity capital. We will then look at how a teacher's understanding of effective practice might be connected to the production of these capitals in their classroom.

The rest of the paper is organised as follows. We will first provide an overview of Schuller's framework, some of the related studies and Australian policy contexts in adult numeracy. We will introduce some frameworks for thinking about teaching practice and pedagogy that we will draw on to examine the case study. We will outline the case study and our findings from it. Finally we will draw some conclusions about the links between the types of benefits that can be reaped from adult numeracy learning and their relationship to the teacher's conception of effective practice.

SCHULLER'S THREE CAPITALS FRAMEWORK

Schuller (2004) developed a framework for examining the benefits of learning in terms of producing three types of assets: human capital, social capital and identity capital. Schuller's framework arose from his research group's UK investigation of the positive benefits of learning that went beyond the economic benefits to the individual, and to their increased capacity to engage in civic life and to their lives within social networks and communities.

Schuller defines human capital in terms of "knowledge and skills possessed by individuals, which enable them to function effectively in economic and social life" (2004, p. 14). Since the early 1990s, Australian adult education and training policies have been increasingly narrowly focussed on the economic benefits of training and education. For adult literacy and numeracy, this has meant a lack of renewal of an Australian language, literacy and numeracy policy that looks at the broader social benefits of adult literacy and numeracy education (Wickert and McGuirk, 2005; Sanguinetti, 2007; Balatti, et al, 2006). The earlier focus on participation and access, and basic education as a 'right of all citizens to develop their literacy and numeracy in an increasingly complex society' was the mission for ABE (ACAL, 1989, p. 1). They are not visible in the current policy environment. Consistent with the broader human capital focus on education and training of the Australian Government, adult literacy and numeracy is currently located within the "training and skills" section within the Commonwealth Department of Education, Science and Training (DEST). Within DEST jurisdiction, there are two programs that directly involve adult literacy and numeracy. They are the Language, Literacy and Numeracy Programme (LLNP)

and the Workplace English Language and Literacy (WELL) Programme. Both of these are funded through open tendering by public and private registered training organisations. The LLNP is focussed on job seekers (DEST, 2006) and the WELL on employees needing language, literacy and/ or numeracy skills development in their workplace (DEST, n.d.).

While the human capital outcomes are not disputed as important, measuring the benefits of adult literacy and numeracy learning purely in terms of economic benefits has been critiqued by researchers and practitioners (see for example, Balatti et al, 2006; ACAL, 2006). The research by Black et al (2006) showed that participation in adult literacy and numeracy programs brought about a wide range of social capital outcomes. They found that even for those who participated as part of a labour market program, there was a wide range of social capital generated that included the strengthening of family ties, inclusion in civic life, developing new friendships, or effectiveness in workplace teams. These outcomes match Schuller's use of the term social capital which is linked to "networks and norms which enable people to contribute effectively to common goals" (Putnam, 2000, in Schuller, 2004, p. 17). In fact, what Balatti, et al (2006) claim is that without the social networks that were developed through participation the participants' success in employment would be limited. Thus, the learning of job-related literacy and numeracy skills is intimately related with the social capital gains in the programs.

Related to both of the above is the concept of identity capital which Schuller describes as "characteristics of the individual that define his or her outlook and self-image" (2004, p. 20). In numeracy, and mathematics education broadly, there have been numerous studies about mathematics anxiety and related concerns (Tobias, 1978; Evans, 2000) that is related to the notion of identity capital. A recent study of adult numeracy learners in the UK further education system by Swain (2005) revealed that a significant majority of participants in his study felt that they had "changed as a person in some way through learning maths" (p. 8), including "greater independence and autonomy" (p. 8). In an Australian study of integrated literacy and numeracy learning in the education and training sector, Wickert and McGuirk (2005) found that the workers participating in the programs experienced improved self-confidence, not only in their workplace roles but in their roles in the community. The findings on the social capital outcomes from the study by Balatti et al (2006) of adult literacy and numeracy courses show how the building of social networks in the class is related to the building of identity capital:

> They are a practice field and they are bridges. As far as possible, the learning environment is controlled through specific group norms and pedagogical practices to allow for students to generate new resources, that is, to learn. Resources may be new skills, new attitudes and beliefs about self and others, new ways of interaction and new links and connections. For many, the networks are a new and safe environment in which

to play out new aspects of identity and practise new skills. Within these networks, social capital outcomes are experienced. (p. 38)

Schuller (2004) not only sees the three capitals as interdependent, but moreover he does not try to draw clear boundaries between them. He illustrates the interaction between the three in the triangular diagram shown in Figure 1:
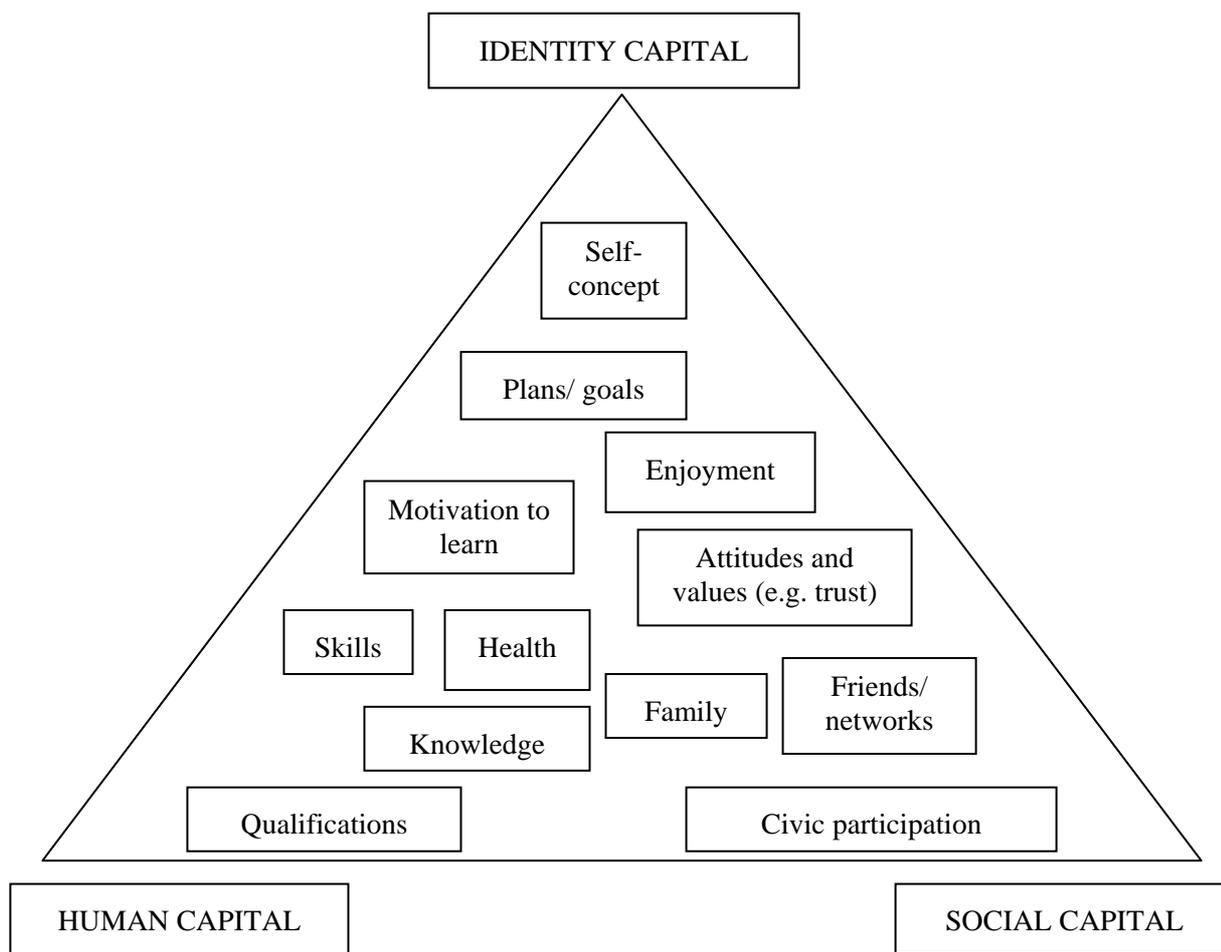

Figure 1. "Conceptualisation of the wider benefits of learning" (Schuller, 2004, p. 13)

The following case study is used to illustrate how the three capitals are generated within an adult numeracy workshop in an ABE program.

TEACHING PRACTICE AND PEDAGOGY

There are different ways in which we might try to examine a teacher's practice or pedagogy. McGuirk (2001) undertook a snapshot study of adult literacy and numeracy practices. She found that a majority of teachers had as their central concern to develop tailored materials and resources that met the individual needs of the learners, and that they regarded adult literacy and numeracy as a fundamental human right. From this strongly shared belief, however, there was a diversity of theoretical influences on each of the teachers that were studied. In the project that we were involved in, there was also no one theory or method that teachers espoused.

None of the teachers made explicit reference to a particular theory or school of thought. Rather we found a range of strongly articulated philosophies and principles about their own roles, ethics and relationships with learners.

To interpret the different practices we examined, we found the formulation of Kemmis (2000) useful; he argues that practices can be examined in terms of five different aspects:

1. the individual performances, events and effects which constitute practice as it is viewed from the 'objective', external perspective of an outsider

2. the wider social and material conditions and interactions which constitute practice as it is viewed from the 'objective', external perspective of an outsider

3. the intentions, meanings and values which constitute practice as it is viewed from the 'subjective', internal perspective of individual practitioners themselves

4. the language, discourses and traditions which constitute practice as it is viewed from the 'subjective', internal social perspective of members of the participant's own discourse community who must represent … practices in order to talk about and develop them …

5. the change and evolution of practice – taking into account all four of the aspects of practice just mentioned – which comes into view when it is understood as reflexively restructured and transformed over time – in its historical dimensions (pp. 1 – 2).

A novice teacher who looks at the minimum qualification standard for adult education and training in the current Australian adult education and training policy contexts might come away thinking that teaching practice is defined by a long list of atomized competencies. On the other hand, our findings from this research suggest that experienced teachers' practices are much richer than what can be expressed in these terms. Indeed, the teachers whose practices we studied were distinctive in the way they were able to portray an authentic and coherent picture of their practice that acknowledged tensions in the different aspects of what they did as teachers. Thus rather than practices driven by some objective performativity measures or some externally defined and objectively recognized standards that are the core of the first two notions of practice in Kemmis' list, what we saw most strongly was the third aspect, of practices shaped strongly by subjective judgments which in turn were strongly informed by and sensitive to the teacher's relationships with their learners, past and present.

Thus the study of practice in this project has been what Kemmis (2000) says, "a study of connections – of many different kinds of communicative, productive and organizational relationships between people in socially, historically – and discursively – constituted media of language (discourse), work and power – all of which must be understood dynamically and relationally" (Kemmis 2000, p. 6). The emphasis on making connections is one that is also expressed by Noddings (2003) who talks about teaching as "relational practice":

Teaching is thoroughly relational, and many of its goods are relational: the feeling of safety in a thoughtful teacher's classroom, a growing intellectual enthusiasm in both teacher and student, the challenge and satisfaction shared by both in engaging new material, the awakening sense (for both) that teaching and life are never-ending moral quests (p. 249).

Noddings expands on the notion of relational practice by emphasizing that "care and trust" are fundamental to this (2003, p. 250). Neither Kemmis nor Noddings refers to any methods for achieving connections or relationships in teaching. According to Kumaravadivelu (2003), trying to identify specific methods is not a meaningful way of thinking about how to teach. Instead he provides a framework for thinking about teaching practice that he calls *postmethod pedagogy* (Kumaravadivelu, 2003). Postmethod pedagogy is a three-dimensional system consisting of:

• the parameter of particularity which is opposed to the notion that there can be an established method with a generic set of theoretical principles and a generic set of classroom practices;

• practicality, that is, a teacher generated theory of practice, a practical theory;

• the possibility of tapping into the sociopolitical consciousness that participants bring with them as a catalyst for continual identity formation and social transformation (Kumaravadivelu, 2003).

In postmethod pedagogy, there is no method or theory of practice that is applicable for all teachers at all times. Rather, a teacher's practice or pedagogy is the system that they themselves generate that gives meaning to what they do in response to particular contexts, with particular learner groups that are connected to their moral sensibilities as well as theories and principles that have meaning to them in those particular situations. Thus in looking at our case study, we will not be looking for particular skills or methods that the teacher might exhibit, or particular theories or principles they espouse. Rather, we will be looking for the holistic picture they present of their teaching approach, and how that is connected to their beliefs and their classroom practice.

CASE STUDY OF AN ADULT NUMERACY TEACHER AND HER CLASS

The case study is of a numeracy workshop run by the teacher Anne (pseudonym). Anne's class takes place in an ABE Unit in a college of the public Technical and Further Education (TAFE) system. She has six adult learners, four of whom are Australian born and have had very interrupted learning, and the other two are from other countries. She describes her class to us in the following way:

Anne: They have poor literacy skills as well as poor numeracy skills. Their understanding of basic concepts in general is very poor, … their numeracy concepts are very poor. They're mostly dependent learners so they're not

capable of independent learning on their own at the moment. They sometimes lack living skills, which impedes learning.

Here Anne signals what might be associated with the concept of identity capital - their need to increase their own independence in their learning. In doing that each of Anne's students needs a lot of one – on - one help throughout their classes. They are also in the process of developing the basic concepts that might help them to become skilled enough to participate in job seeking and employment. Furthermore, Anne links gaps in what might be categorised as their social capital (living skills) as key factors in impeding their learning.

According to Anne, the needs of the six learners are varied. Some have very fragmented educational backgrounds, while others might have had some schooling but in completely different cultural and social contexts to what they are experiencing now. Anne devises both group and individualised tasks, and spends considerable time working one-on-one with the learners in her class. In response to a question about her teaching approach, she says:

Anne: The really important thing you've got to know is to know your students; know what their learning difficulties are or where their strengths are and work on those. Know what's happening in their lives so you can link into that. …So it's really important to listen to the students, listen to their stories and that helps you to understand where they're coming from and what's happening with them at the moment. Then I try and link the resources and the learning to that so their learning is relevant to them.

On the day of the class that we observed, Anne spent some "informal time" speaking to the students outside of the classroom for 5 to 10 minutes before the class was due to begin. The conversation was initiated by Anne asking the learners how they were and what they had been doing, and listening to where they had been on the weekend. For Anne, this was not an incidental moment, or something determined by some social convention; she explained that this was part of her plan to build a relationship with students:

Anne: I think one of the really important things that underpin my teaching is the fact that I'm teaching students and I'm not teaching the syllabus.

Interviewer: So how did you arrive at this? What brought all this together?

Anne: A love of people, just a wanting to know and understand how people react to things and how they live their lives. I'm really interested in my students and I let them know that.

At no time during the interview, did Anne name grand theories of adult education or pedagogy. However, she expressed her beliefs and approach confidently, reflectively and with clarity. These beliefs and approach were demonstrated in her class when she taught a session on the topic of measurement. She elicited what the learners knew about the topic, allowed learners to share personal stories that they wanted to tell

about the topic, and used those stories to teach the concepts. She used a number of fun and easy to use measurement tools, and where possible used an active kinaesthetic approach to the tasks she set. While keeping the class together by using the common topic of measurement, her measurement tasks were individualised according to the current abilities that Anne assessed in each of the learners.

The learners were visibly engaged in the class, some working more independently than others in their individualised tasks of measuring objects and distances in the room, while others sought help from each other or from Anne. The learners all said that they were enjoying learning in the course, for example:

Learner 1:   Well I enjoy all parts of maps and that. I'm quite good at measuring things and that …

Learner 2:   I found the maths really good … very helpful as well … with different adding up and money management and all those sort of things

In response to a question about their motivation for attending the class, not all of them mentioned employment outcomes, or as their only reason. There was a mix of aspirations related to improvements in their negotiation of their everyday life, further study and employment. For example:

Learner 1:   Well hopefully it will mean you know a better education and that for me .. maybe get another job or something.

Learner 2:   Well not having a job you've got to keep yourself motivated so I had to come to TAFE to learn you know, to better yourself. .. I'm actually trying to look for more for the gardening side of work because I was actually doing that before and I'm trying to get back into it.

Learner 3:   Now I want to study computer and then maths and then English and writing and listening … Because I need always [in] my daily life.

Learner 5:   This course for me … is for future is very important for me. Because … I immigrate here so I got my family here. I'm going to live here now. I'm Australian resident and I love the country … So I … want to get through to English reading and writing, a little bit computer ... for future, you know every job you need that.

The learners talked about Anne as being "helpful", "friendly", "explains things well". And they valued the learning environment, and working with each other:

Learner 3:   They [are] very good, very good. We have a very friendly, very nice persons, ... Very important. I'm very comfortable.

Learner 5:   So since I come to this class I meet all these people … like so good for me. … I know these people … they're my friend[s]. When I come to school I'm happy you know.

Within this small class, the teacher Anne and the six learners were building assets that were linked to human capital – skills and knowledge for further study and employment; social capital - friendships and trusting relationships among the class members including the teacher, and for some, greater capacity for civic participation in a new country; and identity capital - motivation to learn, enjoyment, planning and goal setting, and a sense of feeling valued by the teacher and each other.

TEACHING AS A RELATIONAL ACTIVITY

The case study of the numeracy workshop might be characterised as a "humanistic", "learner-centred", or "communicative" classroom. What struck us most strongly for us as researchers of one teacher's teaching practice was the consistency between her espoused views of teaching and her practice, in particular, the importance she placed on her relationship with the learners and her classroom practice. It was also noticeable that the benefits of learning in terms of human capital, social capital and identity capital were not only were being achieved, but were being interlinked throughout the learning environment set up by the teacher. There were learners who could articulate the links they saw between the skills they were learning and increased participation in their community or "daily life". Several commented on how the course helped them to "better themselves" and to begin to set goals for themselves in further learning and employment.

While the teacher described her learners as being "dependent" learners, and the learners acknowledged the help they were receiving from her, the relationship was not one of enforcing dependency. Rather the teacher responded to their needs in order to help them grow and develop their skills as well as their self-concept, including independence and self-confidence. She created an environment of care and friendships so that the learners could a class - what Balatti et al (2006) called a "practice field" or a "bridge" to wider social participation. There was no single method or theory that was used by the teacher that could explain the benefits that the learners in this class were gaining from the numeracy workshop. However, the notion of teaching as a "relational practice" (Noddings, 2003) resonated strongly in the teacher's practice; the coherence of her pedagogical approach reflected what Kumaravadivelu calls postmethod pedagogy, where the teacher's practice is critically informed by, challenged by and responsive to the particular situational contexts in which a teacher finds themselves.

CONCLUSION

We have presented a small case study of an adult numeracy class and examined some of the possibilities for learners to gain a range of benefits from their learning, benefits that Schuller (2004) calls human capital, social capital and identity capital. We suggested that the possibilities of realising these benefits were linked to the teacher's understanding and demonstration of teaching as a relational practice, that is, of making connections with the learners and their individual lives, and a pedagogy that

is strongly influenced by what the teacher sees as the learners' individual learning needs and goals.

The case study is too small to draw any general conclusions. However, in a policy context where adult literacy and numeracy education is seen only from the perspective of economic gains, and teaching as an application of an externally determined list of competencies, this case study is an important reminder of the potentials that learning carries, and the potentials that teachers have to help learners to gain rich benefits from their learning.

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