



Ecological practice: Illustrations from educational psychology in New Zealand

Jean Annan

Senior Lecturer, College of Education, Massey University, Albany Campus.

ABSTRACT

Educational psychologists in most parts of the world report that they take ecological approaches to their work. But what does working ecologically mean? How do we recognise ecological practice?

This article discusses some salient aspects of the practice of psychologists who say they work ecologically. The first section of the paper presents a global perspective on current practice, considering critical points of the journey of educational psychology from its inception to the present day. This brief history highlights important features of current practice by contrasting them with previous ways of working. It makes reference to a selected number of the many theories that have influenced the progression of educational psychology. The history is followed by more detailed discussion of the particular theory currently emphasised in educational psychology literature. This discussion is built around four emerging themes in ecological practice:

1. Multi-systemic units of analysis.
2. Collaboration in multiple relationships.
3. Supportive learning environments.
4. Evidence-based practice.

To illustrate the practical application of each of these elements, the article refers to examples of New Zealand practice in which the ecological themes are evident.

Research paper

KEYWORDS:

Attachment behaviour, child development, education psychology, ecological perspective, resilience.

THE CHANGING PERSPECTIVE OF EDUCATIONAL PSYCHOLOGY

During the century-long history of educational psychology, the focus of research and practice has swayed in response to the movement of perspectives on human development. There is general agreement among educational psychologists today, that ecological understandings underpin their practice (see Pianta, 2005; Fantuzzo, McWayne, & Perry, 2004; Sheridan & Gutkin, 2000; Woolfson, Whaling, Stewart & Monsen, 2003). The theorists whose ideas hold most appeal for psychologists are those who have embedded understanding of development in the dynamic systems of the broader social environment. This focus on context resembles the earliest conceptualisations of educational psychology.

At the outset, educational psychology was a discipline concerned with the influence of a range of societal factors on the development of young people (Berliner, 1993). This community focus narrowed in response to modern society's increasing trust in scientific inquiry to produce definitive and universal understandings of human development (Alexander, 2003; Flynn, 1997).

The drive for efficiency in the newly industrialised Western world and wide-spread belief in the power of science to discover universal truth led researchers to study the abilities of the mind. Some psychologists, such as Henry Goddard, who translated the Binet-Simon IQ into English in 1908, were convinced that intelligence could be defined and measured, and that this measurement would identify those with skills or functional behaviours that would contribute to the productivity of the modern world. The chief determiner of human conduct, in Goddard's view, was a unitary inborn mental process known as intelligence (Plucker, 2003).

Psychologists endeavoured to isolate human actions and to study them apart from their social and cultural contexts. They assumed that all behaviours would eventually be quantified and measured and they involved themselves in a practice that reflected largely person-centred, deficit views of human action. From the time James Cattell established a psychological laboratory to study individual differences in mental abilities without the distraction of setting events, psychological researchers made efforts to ensure that the effects of contextual variables, considered extraneous to investigations, did not contaminate assessments. Some psychologists, including G. Stanley Hall, founder of the American Psychological Association, also took a strong interest in the individual differences of children and the degree to which individuals' measures of functioning veered from normative paths. Hall did not consider that such measures should be decontextualised, or analysed without taking into account other environmental variables, and suggested that intellectual development was influenced by genes, learning conditions, and the nature of social interaction (Berliner, 1993; Fagan & Wise, 2000). In Hall's view the laboratory was not the place to learn about human development. He proposed that purposeful and valid study could only occur in children's natural environments and that, furthermore, ordinary people in these settings could participate in the collection of information relevant to the investigation. Hall instigated the Child Study Movement to broaden the focus of scientific inquiry, but the profession

did not progress directly from this point. The Child Study Movement was successfully challenged by scientists who considered that Hall's research methods lacked sufficient rigour (Wozniak, 1999). Psychology had much to gain from adhering to a visible, measurable and genetic notion of human intelligence and its expression in behaviour, interpreted in isolation to the subjectivity of people's perspectives. The discipline maintained a comfortable place in society throughout the first half of the twentieth century on the promise that behaviours that might further the productivity of the industrialised world would eventually be identified and nurtured.

By the 1970s, sectors of the educational psychology community directed challenges at the tight scientific approach. Although some important psychological principles had been discovered through scientific research, psychologists observed that decontextualised research and practice did not correspond with the interactions they observed in the social environments of young learners. It did not help them explain or accommodate the diversity and complexity in their work situations. In addition, the usefulness of decontextualised methods, designed to improve learning and behaviour problems, was not systematically demonstrated (Moore, Anderson, Timperley, Glynn, Macfarlane, et al, 1999; Sheridan & Gutkin, 2000). Some psychologists called for increased attention to the interaction of factors influencing the education of young people. Cronbach pointed out that many of the products of social science research did not hold for long and cited decade discrepancies in the applicability of findings to demonstrate the need to imbed educational psychology in the socio-historical world of participants (Cronbach, 1975).

Deliberation on the rigidity of the traditional scientific process of inquiry and the dubious outcomes of practice during the middle years of the twentieth century led to new conceptualisations of the profession that incorporated many of the broad notions of practice evident at its establishment. Present day educational psychology is concerned with events in both the immediate situations of developing people and the wider societal influences on this development. "It is now routinely conceptualised in the literature as an interactive and contextualised process, the environment, both social and physical, being recognised as a powerful determinant of learning and behaviour" (Moore, 1998, p4). Ecological practice locates the forces that power social relationships and human activity in the interaction between individuals and their surrounding environment rather than within individuals alone (Christenson, 2004; Engelbrecht, 2004; Sheridan & Gutkin, 2000).

Ecological psychology involves the assumption that interpersonal circumstances and the meanings of interactions between individuals and their surrounding environments are socially constructed and unique to particular circumstances. Accordingly, psychologists recognise the multiple and individual subjective realities of those involved in their work in the field. They expect and value differences among people (Atkins, Graczyk, Frazier & Abdul-Adil, 2003; Sheridan & Gutkin, 2000; Pianta, 2005). Increasingly, methods of practice involve active collaborative examination and reconstruction of people's dynamic social worlds.

CURRENT EDUCATIONAL PSYCHOLOGY PRACTICE

The following section presents the four themes of ecological practice. Each theme is introduced with an example of New Zealand practice, followed by a comment on the theory that reflects this professional practice. The examples of 26 educational psychologists' practice have been extracted from a report of research by Ryba, Annan and Mantis (2001) who examined special educators' ways of working and the theoretical underpinnings of this practice. The research had used a semi-structured survey and interview procedure and required that participants recall, rather than recognise, salient aspects of their practice. Prior to the interview, participants completed questionnaires which formed the basis of the interviews. The survey questions that are relevant to the aspects of the study reported here included:

- What principles guide your practice?
- What methods or frameworks for practice do you emphasise in your work?
- What methods do you use to gather information?
- What methods do you use to develop support plans?

This is a new perspective on the previously reported information and aligns the psychologists' reports of practice with published ecological theory. Many psychologists interviewed in the Ryba et al study considered that their approach was ecological and described practices that fell into the four themes. While not all psychologists necessarily take an ecological approach to their work, the reports of those who do serve to demonstrate ways in which the espoused theory of the profession can be translated into practice in this country.

1. MULTI-SYSTEMIC UNITS OF ANALYSIS

Illustration from Practice

The psychologists indicated that their practice was guided by a range of theories of human development, the most common being those that supported them to consider the broad social environment. For example, participants described the theoretical foundations of their work as holistic, ecological, multi-element, social constructivist and social cognitive. Some mentioned that they were guided by Kaupapa Māori pedagogy, a way of understanding situations that considers the development of people in relation to the social, historical, cultural, physical and spiritual environment in which they develop. They reported that the works of several prominent theorists had strongly informed the practice. These included Uri Bronfenbrenner, William Glasser and Lev Vygotsky. Participants also explained that the theories of behaviourists such as B.F. Skinner and Albert Bandura continued to influence specific aspects of their practice. Several incorporated social constructivist approaches, such as narrative methods.

Theoretical Underpinnings of Multi-systemic Practice

Possibly the most prominent theorist to influence current educational psychology practice throughout the world is Bronfenbrenner. In 1977, Bronfenbrenner published *The Ecology of Human Development: Experiments by nature and design*, presenting an ecological theory that has served as a catalyst for massive change in direction for educational psychology (Sheridan & Gutkin, 2000).

Bronfenbrenner recognised that his approach contrasted sharply with the prevailing research models of the mid-twentieth century and considered that the methods adopted by psychologists during the scientific era blinded their vision of the environmental aspects that determined human development. Psychologists had, in Bronfenbrenner's view, developed methods and perspectives that greatly underestimated human capacities. Contexts of development had been viewed as static structures that did not take into account the ongoing processes that influenced the initiation or development of behaviour. He viewed environment or context as not just a single setting but one that was shaped by the influence of systems outside the immediate setting. This view is reminiscent of the view of John Dewey, who concluded that "control of individual actions is effected by the whole situation in which individuals are involved, in which they share and of which they are co-operative or interacting parts" (1938, p53).

The ecological model of human development encompasses the entire range of environmental influences on developing people and is based on two fundamental premises: each person is an inseparable part of a social system and disturbance is viewed as discordance or a lack of balance in the system in which an individual's demands or expectations of the environment are mismatched with their experience (Apter and Conoly, 1984). Bronfenbrenner portrayed the total environment or ecosystem as a set of nested structures or layers bound together by the interaction between them. As all levels of the ecology were implicated in human development, Bronfenbrenner encouraged researchers to look beyond single settings and explore the interaction between settings. Interactions between the levels, and between settings within levels, were potentially as powerful as the events occurring in the immediate settings of the developing person. Differences in behaviour of people in similar settings were explained through examination of the various meanings they ascribed to settings, their perspectives on the settings being influenced by their social and cultural background, and their lived experience. Individuals did not remain passive in the process of development but engaged with the surrounding world to codetermine their positions. Bronfenbrenner noted that settings from the same culture seemed to be similar while there were clear distinctions between settings from different cultures. He suggested that cultures possessed a 'blueprint' that determined the nature of each layer of the ecology. This blueprint was not static but contestable and, when challenged and altered, resulted in changes in the actions of individuals (Bronfenbrenner, 1979).

Bronfenbrenner proposed that development resulted through a dynamic set of reciprocal interactions rather than a single linear process. Analyses of the environments in which these interactions occurred required a systems approach to understanding and to the development of applicable intervention. As the extent to which any setting was able to lend positive support to a person depended largely on the existence and nature of social connections between settings, support for development was dependent on the situations of significant others. The role demands, stresses and supports stemming from other settings all played a part in determining the capability of those with a support role to offer such assistance.

While the profession of psychology has changed its focus from individuals to the social systems surrounding particular circumstances, psychologists have faced a long struggle in developing methods of practice that guide them to work in ecological ways. In addition, they have found themselves wrestling with less than receptive work environments where expectations of psychology practice reflect former perspectives (Moore et al, 1999). The movement from a practice intent on explaining human development through decontextualisation of behaviour and isolation of variables to one in which all aspects of young people's ecosystems are taken into account has required psychologists to re-examine their theories regarding their role and methods of service delivery. Psychologists have been asked to make a 180o turn. In many respects, those who accepted the shortcomings of decontextualised practice were faced with an unknown future and were required to place enormous challenges on their own world views. Not surprisingly, they were not always able to fully divest themselves of their regard for narrow abstractions of the functioning of individuals (Flynn, 1997). While modern methods of practice did not translate well to the field, psychologists, and the teachers and parents who were stakeholders in the process, were immersed in societal discourses about the superiority of knowledge gained through traditional scientific endeavour. Assessment methods in many school systems continued to focus solely on the isolated performance of individual students rather than the interaction between these performances and the surrounding systems (Gipps, 1994). In addition, some sectors of the profession feared that ecological methods threatened the rigour of their practice. Accordingly, resistance to change came from both inside and outside the profession (Bruner, 1996; Pajares, 2003). Despite the magnitude of the required shift in perspective, Bronfenbrenner has provided a strong, cohesive and well-articulated theory that has supported the profession to make much headway.

The ecological view of human development has challenged the profession to develop ways to manage the enormous complexities of dynamic systemic analysis. Psychologists must identify the influences on particular human interaction and understand the ways in which the various factors contribute to observed situations. Bronfenbrenner argued that the detection of "wide-ranging developmental influences becomes possible only if one employs a theoretical model that permits them to be observed" (1979, p4). Models of practice such as Functional Behaviour Assessment (Miller, Tansey & Hughes, 1998; Miller, 2000; Skiba, Waldron, Bahamonde, & Michalek, 1998), Problem Analysis, (Robinson, 1987) and Situational Analysis (Annan, 2005) are examples of frameworks for practice used by educational psychologists in New Zealand. These assessment frameworks support the collection and analysis of relevant information relating to a range of settings that represent significant ecological layers influencing referral situations.

2. COLLABORATION IN MULTIPLE RELATIONSHIPS

Illustration from Practice

The psychologists emphasised the value of their connections with others and reported that they had established multiple relationships with people who took various roles in the educational environments they examined in their work.

In addition to the relationships they developed with students, teachers and parents, they worked to construct effective relationships with people from other disciplines, cultures and agencies. The vast majority of the psychologists (96 percent) said that they accessed most support for their work from their participation in their practice teams. They negotiated their respective roles and collaboratively planned procedures. This was clearly reflected in the comment of one participant who explained that “collaborative consultation with non-hierarchical decision-making is the key” to ecological practice (Ryba et al, 2001, p21).

Social Construction of Knowledge in Multiple Relationships

The ecological approach to understanding human development rests on the premise “that what matters for behaviour and development is the environment as it is perceived rather than as it may exist in objective reality” (Bronfenbrenner, 1979, p4). Development reflects, and is, the way people perceive and deal with their unique but interrelated environments. Fieldwork guided by Bronfenbrenner’s ecological model necessarily includes the active involvement of the developing person, the environment and significant players. It is integrally involved with the interaction among them. Ecological understandings highlight the need for the development of methods that support psychologists to understand the particular ways of knowing of all people involved in fieldwork.

The ecological viewpoint has challenged the belief that psychologists and other educational professionals can make accurate analyses of situations. It implies that what psychologists do offer are their own personal interpretations of observed situations based on their personal or professional beliefs. Ecological psychology has shed doubt on the dualistic concepts of normality and exceptionality, giving rise to more inclusionary views of learners. Psychologists’ helpfulness with regard to referral situations now lies in their ability to share professional knowledge and to work with those directly involved in referral situations, to co-construct analyses of their own circumstances. The psychologist’s role has become one of active participant in the construction of the emerging interpretation rather than that of objective observer.

Bronfenbrenner (1979) explained that each person perceives experience in any given context in their own way. People bring to each situation their social and cultural histories that serve to filter their perception of events and they demonstrate this in their varying characteristics. Challenges in describing contexts are compounded by the variation in the behaviours of each person in different settings and the perceptions, influenced by their own culture and experience, of observed events. Bronfenbrenner was not alone in considering the influence of culture and perspective on development. Vygotsky (1978), who described human development as an interactive process, considered that the socio-cultural aspects of any particular group determined both the nature of pedagogical processes used and the means for development of consciousness itself. The process of development was mediated by ‘tools’, most importantly, language. He portrayed reality as a system of managed

symbols; a system of meanings that served to support the development of social relations. In Vygotsky’s view, human development was first and foremost ‘social’, arising from social relations that then determined individual development.

Referral situations are frequently fraught with complex interactions between players and present as ill-structured or difficult to understand (Robinson, 1987). They are not experienced by all participants in the same way. Ecological psychology requires that psychologists develop methods and frameworks that support the development of relationships that foster motivated and harmonious engagement in the fieldwork process (Miller & Leyden, 1999). New partnerships with families and agencies concerned with the development of young people are becoming a familiar aspect of educational psychology practice. These partnerships give rise to the need for the development of skills to establish and maintain community networks of integrated services in ways that recognise the diversity that is a valued characteristic of today’s society. To be effective, psychologists must be competent at working in diverse circumstances, and strive to understand the many ways in which their various collaborative partners understand their world. Value patterns, concepts of right and wrong, and other culturally specific practices cannot be assumed by those who are facilitating fieldwork processes. Sheridan and Gutkin (2000) suggested that systems must be accessible with reference to physical, psychological, social, and cultural factors and oriented toward full participation, partnership and empowerment.

While educational psychologists accept social diversity and value its role in the creation of new knowledge, they also recognize the importance of creating common understandings between key participants. For example, the psychologists reported that when working across cultures, they either consulted or worked alongside people who had, or who could access, the particular knowledge required to construct applicable new solutions (Ministry of Education, 2004). Decontextualised analyses, or those constructed with insufficient cultural knowledge, provided little information to inform the development of acceptable alternatives.

3. SUPPORTIVE LEARNING ENVIRONMENTS

Illustration from Practice

The approach adopted by the majority of psychologists surveyed was to focus on identifying the strengths of the situations they encountered in order to build new solutions on these strengths (Ryba, et al, 2001). Many reported that their view of practice was generally optimistic, the purpose of their work being based on the belief that all children can learn. The psychologists mentioned the importance of inclusion of all children in educational programmes, one noting that “all students have a right to learn alongside same age peers (p18)”. They also explained that their work in each situation was individualised, designed to respond to particular needs and to improve the quality of children’s lives. The psychologists taking part in the study sought constructive rather than disruptive involvement and reported that they worked toward developing the least intrusive

alternative solutions. They considered contextual factors in the environments of those people, such as teachers, who supported children and implemented interventions.

(a) Inclusion

The inclusion of all people in educational settings is one of educational psychology's strongest values. Again, Vygotsky commented on this aspect of social interaction, explaining that his theory of human development was applicable to all learners. He chose not to draw distinctions between types of learners through the process of diagnosis and categorisation. Vygotsky viewed all children as being placed on a single continuum of educational ability, a strong departure from the deterministic biological perspectives in his own early twentieth century social and political environment where certain people were dismissed as uneducable (Wertsch & Bustamante Smolka, 1993). Vygotsky argued that the effectiveness of educational provision must be taken into account in every situation. He considered that the failure of any individual to progress satisfactorily to be a secondary problem originated from a primary problem found in the social relations associated with the individual concerned. Similar views are echoed in the words of many present day educators who advocate for systems that support effective and inclusive education for all children (Ballard, 1994; Fuchs & Fuchs, 1994; Slavin, 1996; Stainback & Stainback, 1996; Villa & Thousand, 2000).

(b) Positive Foundations for Intervention

The integration of narrative inquiry into psychologists' practice has provided some answers for those caught between the questioning of traditional methods developed in the scientific era and the vacuum created by the absence of tools to work ecologically. These tools, which include co-researching the effect of a problem situation on the lives of several individual participants, support the engagement of those people involved in referral situations on an everyday basis and who take varying perspectives on the matters of concern (White, 1988; White and Epston, 1990). In addition, White and Epston's narrative approach to understanding and reconstructing social situations has permitted many psychologists to support others to make sense of events, guiding them to seek solutions in the supportive aspects of situations rather than in the problems that so often dominate initial referrals.

Educational psychology assessment is no longer centred on the identification of deficits in students, or teachers and parents, but emphasises the detection, construction and consolidation of strong and respectful foundations for intervention. Psychologists working ecologically continue to identify the learning needs of students but must also invariably discern beneficial behaviours and positive environmental supports for development (Bear, Cavalier, & Manning, 2002; Barnett, 2002; Fantuzzo et al, 2003; Jenson, Olympia, Farley & Clark, 2004; Moore, 1998; Terjesen, Jacofsky, Froh & DiGuisseppe, 2004). The purpose of fieldwork in educational psychology is to make systems work for young people and their significant others; to construct solutions upon the unique strengths and helpful skills of students. In order to influence the systems that interact

with child behaviour and learning, these systems must first be understood or interpreted in ways that foster the construction of better alternatives to problematic situations.

This change in focus has coincided with the introduction of positive psychology (Seligman & Csikszentmihalyi, 2000), an approach that encourages psychologists to consider and understand not only people's experiences and consequent actions, but their emotions in response to their environments. Positive psychology integrates well with educational psychology's focus on supportive social systems and the development of interventions constructed on positive foundations (Barnett, Bell, Gilkey, Lentz, Graden, Stone & Smith, 1999; Waldron & McLeskey, 2000; Zins, Elias, Greenberg & Weissberg, 2000).

Positive psychology is the study of pleasant or desired subjective experience. It suggests that people who experience positive affect are more likely to demonstrate abilities such as creativity and flexibility, and to interpret events in ways that allow them to ascribe positive meaning to the events they observe. Seligman and Csikszentmihalyi propose that positive experiences are constructive, leading to exploration and mastery. Negative experiences, on the other hand, are destructive, leading to the stifling of development and the default to actions that are familiar and safe, regardless of their applicability to the particular situations. Clearly, such understandings have important implications for educational psychology with its focus on behaviour and learning (Chafouleas & Bray, 2004). In order to nurture positive affect, supportive aspects of environments must be identified or created and then maintained.

4. EVIDENCED-BASED PRACTICE

Illustration from Practice

Seventy-seven percent of the psychologists interviewed about their ways of working commented on the importance of systematic data-based methods of inquiry for decision-making. They noted that their practice was based on a coherent set of theories and identified specific practices derived from this knowledge. The participants stressed the importance of basing analyses on assessment data collected in collaboration with others and collaborative planning of interventions guided by sound analyses. They reported that working across cultural boundaries was an integral part of collaborative consultation rather than a separate component of practice (Ryba et al, 2001).

Evidence and Practice

Educational psychology is currently reviewing its stand on the place of evidence and is, more than ever, being required by schools, employers and the community to demonstrate sound practice (Hoagwood & Johnson, 2002). For example, the new Health Practitioners Competence Assurance Act (2003) requires that psychologists, and other health professionals, can establish that they meet standards set by their respective authorities to determine clinical, cultural and ethical competence. Educational psychology, with its history of alliance with the scientist practitioner position, is expectedly responsive to current demands for evidence-based practice. This response is visible in the emphasis

placed by the profession on the implementation of evidence-based interventions (Fox, 2003; Kratochwill & Shernof, 2004; Hoagwood, Burns, Kise, Ringeisen, & Schoenwald, 2003; White & Kratochwill, 2005). The current drive for an evidence-based practice reflects an increasingly rational political climate in schools in Organisation for Economic Cooperation and Development countries such as New Zealand, the UK, Canada and the US (Borman, Hewes, Overman & Brown, 2003; Fuhrman, 2002). However, this movement also signals the need to update traditional notions of evidence so that measures of effectiveness are aligned with current understandings of practice.

The relationship between research and practice for educational psychologists is strong. Psychologists, co-researching in their everyday practice with people involved in referral situations, will apply their theories of research to practice. Taking contextualised approaches to practice and recognising the social construction of knowledge does make the task of providing evidence of sound practice in educational psychology more complex than in previous eras. Individual, subjective experiences of people must be considered, as well as the objective views of observers. Clearly some factors will be easier to detect and more amenable to measurement than others. Accepting a broad notion of research does not mean that the scientific process has no place in the design and evaluation of interventions, rather, contemporary approaches to research and practice offer an enriched view of science and extend the range of questions that can be asked (Gergen, 2001; Potter, 2002; McCaslin & Hickey, 2001; Pratto, 2002; Rosiek, 2003). Psychologists continue to be mindful of evidence. However, recognition of the importance of context does alter the criteria by which evidence is determined.

The evidence-base of ecological educational psychology practice concerns the construction of the processes of practice, as well as the demonstration of the effectiveness of psychologists' work. With regard to the educational psychology process, two aspects must be considered. Firstly, the psychologists' background of knowledge of psychological theory and their ability and willingness to develop, and flexibly apply, practices derived from these understandings (Fox, 2003; Hughes, 2000). Secondly, the extent to which psychologists' practice reflects local cultural knowledge and the voices of individuals involved in particular situations. In short, applicable ecological understandings are constructed in relation to psychological theory and socio-cultural knowledge gained through collaborative inquiry. The most easily discernible form of evidence is located in the demonstration of the effectiveness of intervention. However, an ecological approach to practice assumes that such evidence is not established in isolation to the contexts in which the assessments are made. For example, Hoagwood and Johnson (2002), when discussing the measurement of effectiveness of intervention, also made reference to the quality, robustness and validity of service practices. Similarly, Kratochwill and Shernoff (2004) placed the evidence-base in the evaluation of interventions, but argued that the contexts in which the evidence-base designations are obtained and the contexts of implementation must be understood.

Evaluation of the effectiveness of psychologists' practice must involve a sufficient range of measures to take into account the various views of the multiple participants and the nature of the presenting issues and interventions. Peters & Heron (1993) offered criteria for sound or 'good' practice that may currently be applicable for psychologists and serve as a guide to evaluation. They described good practice as that which had an explicit theoretical base, concurred with current literature, produced desired outcomes and was considered by participants to possess a high degree of social validity. In ecological practice, social validity has an important part to play when making judgments regarding good practice as ways of working that are most acceptable to participants, and viable in practice, and are most likely to be those that can accommodate the perspectives of all participants.

Evidence-based practice in New Zealand is a professional and industrial concern. Psychologists must be prepared to practice in ways that meet all appropriate ethical, professional and legal standards to protect the rights of all of the people with whom they work (The New Zealand Psychological Society, 2002). The Ministry of Education: Special Education encourages its employees to engage in evidence-based practice and to apply methods of practice derived from applicable theories or legitimate knowledge. It values evidence-based practice for its capacity to restore links between theory, research and practice in the organisation (Ministry of Education, 2004). Irrespective of the theoretical orientation of the psychologist, each practitioner is asked to show that their approach to practice is guided by sound and coherent theory and that the outcomes are examined.

CONCLUSION

Educational psychologists who considered that they worked ecologically reported that their practice was influenced by a range of theories that contributed uniquely to their practice but shared a common foundation of socially mediated learning. They worked collaboratively with children, families, schools and other professionals to understand the relationships between environmental factors and to create constructive and situation-specific interventions. They recognised the value of the multiple professional relationships they developed with other people in the diverse range of settings associated with their work. These relationships provided knowledge that could complement psychologists' professional knowledge and that supported them to maintain an evidence-based approach to practice. The psychologists, guided by a belief that all children can learn and have the right to education, worked to promote inclusive education for all students.

Although many psychologists in New Zealand can demonstrate that they approach their work from an ecological perspective, the implementation of ecological methods has not always been straightforward. Challenges to ecological practice have come from within and outside educational psychology as the development of new methods has required that some aspects of previous practice be set aside. Educational psychology, considered from an ecological point of view, is a practice that itself reflects its own history and the specific contexts in which it is practiced. It is not

surprising, therefore, that barriers to the implementation of the espoused ecological methods of the profession reflect challenges from practitioners as well as from people involved in the contexts in which the practice occurs. However, the reports of the New Zealand psychologists who participated in the Ryba et al (2001) study suggest that these barriers are not insurmountable and that some practitioners have developed methods that support them to work consistently with their espoused theories.

REFERENCES

Annan, J. (2005). Situational Analysis: A Framework for Evidence-Based Practice. *School Psychology International*, 26(2), 131-146.

Alexander, P.A. (2003). Coming home: Educational psychology's philosophical pilgrimage. *Educational Psychologist*, 38(3), 129-132.

Apter, S.J. & Conoly, J.C. (1984). Childhood behaviour disorders and emotional disturbance: *An introduction to teaching troubled children*. Englewood Cliffs, NJ: Prentice-Hall.

Atkins, M.S., Graczyk, P.A., Frazier, S.L., & Abdul-Adil, J. (2003). Toward a new model for promoting urban children's mental health: Accessible, effective, and sustainable school-based mental health services. *School Psychology Review*, 32(4), 503-514.

Ballard, K. (1994). *Disability, Family, Whānau and Society*. Palmerston North: Dunmore Press.

Barnett, D.W. (2002). Best practices in early intervention. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology IV* (2). Bethesda, MD: National Association of School Psychologists.

Barnett, D.W., Bell, S.H., Gilkey, C.M., Lentz, F.E., Graden, J.L., Stone, C.M., & Smith, J.J. (1999). The promise of meaningful eligibility determination: Functional intervention-based multifactored preschool evaluation. *The Journal of Special Education*, 33, 112-124.

Bear, G.G., Cavalier, A.R., & Manning, M.A. (2002). Best practices in school discipline. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology IV* (2). Bethesda, MD: National Association of School Psychologists.

Berliner, D. (1993). The 100-year journey of educational psychology: From interest to distain to respect for practice. In Thomas K. Fagan and Gary R. VandenBos (Eds.), *Exploring applied psychology: Origins and critical analysis. Master lectures in psychology*. Washington, D.C.: American Psychological Association.

Borman, C.D., Hewes, G.M., Overman, L.T., & Brown, S. (2003). Comprehensive school reform and achievement: A meta-analysis. *Review of Educational Research*, 73(2), 125-230.

Bronfenbrenner, U. (1979). *The Ecology of Human Development. Experiments by nature and design*. Cambridge, Massachusetts: Harvard University Press.

Bruner, J. S. (1996). *The culture of education*. Cambridge, MA: Harvard University Press.

Chafouleas, S.M. & Bray, M.A. (2004). Introducing positive psychology: Finding a place within school psychology. *Psychology in the Schools*, 41(1), 1-5.

Christenson, S.L. (2004). The family-school partnership: An opportunity to promote the learning competence of all students. *School Psychology Review*, 13(1), 83-104.

Cronbach, L. J. (1975). Beyond the two disciplines of scientific psychology. *American Psychologist*, 30, 116-127.

Engelbrecht, P. (2004). Changing roles for educational psychologists within inclusive education in South Africa. *School Psychology International*, 25(1), 20-29.

Fagan, T.K. & Wise, P.S. (2000). *School Psychology: Past, present and future*. Bethesda, MA: National Association of School Psychologists.

Fantuzzo, J., McWayne, C., & Bulotsky, R. (2003). Forging strategic partnerships to advance mental health science and practice for vulnerable children. *School Psychology Review*, 32 (1), 17-37.

Fuhrman, S. (2002). *Reform in education: Twenty years of effort*. United States – France Education Roundtable. Governance and education, November. Post Conference Booklet. Paris, France.

Fox, M. (2003). Opening Pandora's box: Evidence-based practice for educational psychologists. *Educational Psychology in Practice*, 19 (2), 91-102.

Flynn, M. (1997). The concept of intelligence in psychology as a fallacy of misplaced concreteness. *Interchange*, 28 (2), 231-244.

Fuchs, D., & Fuchs, L (1994). Inclusive schools and the radicalization of special education reform. *Exceptional Children*, 60, 294-309.

Gergen, K.J. (2001). Psychological science in a postmodern context. *American Psychologist*, 56 (10), 803-813.

Gipps, C. (1994). *Beyond testing. Towards a theory of educational assessment*. London: Routledge Falmer.

Hoagwood, K., Burns, B.J., Kise, L., Ringisen, H., & Schoenwald, S.K. (2003). Evidence-based practice in child and adolescent mental health services. *Psychiatric Services*, 52, 1179-1189.

Hoagwood, K. & Johnson, J. (2002). School psychology: A public health framework. *Journal of School Psychology*, 41(1), 3-21.

Hughes, J.N. (2000). The essential role of theory in the science of teaching children: Beyond empirically supported treatments. *Journal of School Psychology*, 38, 301-330.

Kratochwill, T.R. & Shernoff, E.S. (2004). Evidence-based practice: Promoting evidence-based interventions in school psychology. *School Psychology Review*, 33 (1), 34-48.

Jenson, W.R., Olympia, D., Farley, M., & Clark, E. (2004). Positive psychology and externalising students in a sea of negativity. *Psychology in the Schools*, 41(1), 67-79.

McCaslin, M. & Hickey, D.T. (2001). Educational Psychology, social constructivism, and educational practice: A case of emergent identity. *Educational Psychologist*, 36, 133-140.

Miller, J. (2000). Multimodal functional behavior assessment. *Communique*, 28 (7), 6-7.

Miller, A. & Leyden, G. (1999). A coherent framework for the application of psychology in schools. *British Journal of Educational Research Journal*, 25 (3), 389-400.

Miller, J. A., Tansy, M., & Hughes, T. L (1998). Functional behavioral assessment: The link between problem behavior and effective intervention in schools. *Current Issues in Education* 1. http://cie.ed.asu.edu/fall98/miller_tansy_hughes/index.html

Ministry of Education, New Zealand (2004). *Professional Practice in Special Education*, Wellington: Ministry of Education, Group Special Education.

Moore, D.W. (1998). *Assessment and intervention: An ecological perspective for resource teachers learning and behaviour*. Paper presented to the Australian Teacher Education Association 28th Annual Conference, July 1998.

Moore, D., Anderson, A., Timperley, H., Glynn, T., Macfarlane, A., Brown, D., & Thomson, C. (1999). *Caught between stories*. Wellington: New Zealand Council for Educational Research.

The New Zealand Psychological Society (2002). *Code of ethics for psychologists working in Aotearoa/New Zealand*. Wellington: New Zealand Psychological Society.

Peters, M. & Heron, T. (1993). When the best is not good enough: An examination of best practice. *The Journal of Special Education*, 26 (4), 359-367.

Pianta, R.C. (2005). Editorial. *Journal of School Psychology*, 43(1), 1-2.

Potter, J. (2002). Experimenting with reconciliation: A comment on Jost and Kruglanski. *Personality and Social Psychology Review*, 6(3), 192-193.

Plucker, J. (2003). Human intelligence: Henry Herbert Goddard. Retrieved 26 December 2004 from <http://www.indiana.edu/~intell/goddard.shtml>.

Pratto, F. (2002). Integrating experimental and social constructivist social psychology: some of us are already doing it. *Personality and Social Psychology Review*, 6 (3), 194-198.

Robinson, V.J. (1987). A problem analysis approach to decision-making and reporting for complex cases. *Journal of the New Zealand Psychological Service Association*, 8, 35-48.

Rosiek, J. (2003). A qualitative research methodology psychology can call its own: Dewey's call for qualitative experimentalism. *Educational Psychologist*, 38(3), 165-175.

Ryba, K., Annan, J., & Mentis, M. (2001). *Development of an integrated approach to behaviour support*. Massey University/Specialist Education Services, National Office, Wellington.

Seligman, M.E.P. & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55, 5-14.

Skiba, R., Waldron, N., Bahamonde, C., & Michalek, D. (1998). A four-step model for functional behaviour assessment. *Communique*, 26(7). Retrieved 26 October 2004 from www.nasponline.org/publications/cq267fbamod.html.

Slavin, R.E. (1996). *Education for all*. Exton: Swets.

Sheridan, S.M. & Gutkin, T.B. (2000). The ecology of school psychology: Examining and changing our paradigm for the 21st century. *School Psychology Review*, 29(4), 485-502.

Stainback, S. & Stainback, W. (1996). *Inclusion: A guide for educators*. Baltimore: Paul H. Brookes Publishing.

Terjesen, M.D., Jacofsky, M., Froh, J., & DiGiuseppe, R. (2004). Integrating positive psychology into schools: Implications for practice. *Psychology in the Schools*, 41(1), 163-172.

Villa, R.A. & Thousand, J. S. (2000). Restructuring for caring and effective education: *Piecing the puzzle together* (2nd Edition) Baltimore: Paul H. Brookes.

Vygotsky, L.S. (1978). In M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, (Eds.). *Mind in Society*. Cambridge: Harvard University Press.

Waldron, N.L. & McLeskey, J. (2000). Preventing academic failure. In K.M. Minke & G.Bear (Eds), *Preventing School Problems – Promoting School Success* (pp.171-210). Bethesda, MD: NASP.

Wertsch, J.V. & Bustamante Smolka, A.L. (1993). Continuing the dialogue: Vygotsky, Bakhtin, and Lotman. In H. Daniels (Ed). *Charting the agenda. Educational activity after Vygotsky*. London: Routledge.

White, M. (1988). The externalization of the problem and the re-authoring of lives and relationships. *Dulwich Centre Newsletter*, Summer, 3-21

White, M. & Epston, D. (1990). *Narrative means to therapeutic ends*. New York: Norton.

White, J.L. & Kratochwill, T.R. (2005). Practice guidelines in school psychology: Issues and directions for evidence-based interventions in practice and training. *Journal of School Psychology*, 43, 99-115.

Woolfson, L., Whaling, R., Stewart, A. and Monsen, J. (2003). An integrated framework for educational psychology practice. *Educational Psychology in Practice*, 19(4), 283-302.

Wozniak, R. H. (1999). *Edouard Claparede: Experimental pedagogy and the psychology of the child (1911)*. Retrieved February 04, 2004, Available: www.thoemmes.com/psych/clap.htm.

Zins, J.E., Elias, M.J., Greenberg, M.T., & Weissberg, R.P. (2000). In K.M. Minke & G.Bear (Eds), *Preventing School Problems – Promoting School Success*. Bethesda MD: NASP.

Note: All information from Ryba, Annan, and Mentis (2001) has been obtained from the public report, *Development of an integrated approach to behaviour support*.

AUTHOR PROFILE

Jean Annan is a senior lecturer in the College of Education at the Albany Campus of Massey University. She is a psychologist who coordinates the post-masters internship of the Educational Psychology training programme. She teaches course and conducts research in educational psychology and professional supervision.

Jean Annan

