

Educators as action researchers: some key considerations

Daneel Rossouw

rossojd@unisa.ac.za

A characteristic of expert educators is their ability to interpret classroom activities critically, to identify and solve problems regarding their teaching practice, and to make thoughtful or reflective instructional and classroom management decisions that are conducive to learning. For educators to be efficacious, they should be active participants in the classroom and observers of the learning and teaching processes, assessing and interpreting the data forthcoming from the classroom and using that knowledge, together with more academic or public theory and research, as a basis for planning and decision-making. Action research provides educators with a strategy to enhance their reflective teaching practice, thereby sharpening their understanding of instruction and improving their instructional and classroom management skills, thus promoting educational change. In this article I discuss an action research model for educators to assist them in finding alternatives to current practice by gathering data and using the data to create meaning, which is then fed back into the system with a view to improved action. The proposed action research model is highly relevant to pre-service and in-service teacher training.

Keywords: action research; applied competences; decision-making in teaching; professional growth; reflection

Introduction

Schön (Parsons & Brown, 2002:ix) characterises teaching as an occupation which abounds with uncertainty and one so complicated that educators cannot merely apply what they have learned in an unsystematic manner. Instead, educators need to continually reflect on their teaching practice, take responsibility for their actions and make thoughtful decisions and changes based on their own distinctive experiences in the classroom (Reagan, Case & Brubacher, 2000:17-20; Parsons & Brown, 2002:ix; Pasch, Sparks-Langer, Gardner, Stark & Moody, 1991:3; Eby, 1998:2). Parsons and Brown (2002:ix) conclude that, although educators may draw on various authorities and on well-grounded theory to support their decision-making, theory and research need to be translated and applied to each unique teaching situation.

The ability, to interpret classroom activity critically, to translate knowledge, wisdom and experience into a form of communication that is compelling and interesting, to identify and solve problems regarding teaching practice and to make thoughtful or reflective instructional and classroom management decisions that are conducive to learning, is a characteristic of expert educators (Zehm & Kottler, 1993:vii; Parsons & Brown, 2002:ix; Zeichner & Liston, 1996:4-6; Pasch *et al.*, 1991:3; Smyth, 1987:8). Pre-service and in-service educators who develop the habit of inquiry acquire a powerful means of becoming more thoughtful and alert practitioners of teaching. According to

Cruickshank (1987:17), people who have the habit of inquiry are likely to be “self-monitoring, reflective, adaptive, experimenters, action researchers, problem solvers, hypothesis makers, and clinical inquirers”.

Literature on reflective thinking sees reflection as a social exercise and claims that educators’ professional growth would be suppressed without a social group setting of collegial and collaborative participation (Zeichner & Liston, 1996:18; Day, 1990:225-228; Parsons & Stephenson, 2005:101; Pollard & Triggs, 1997:16). One could say that reflective professional development in teaching should be viewed as a process of advancing noteworthy behavioural change, improved performance and professional growth (Osterman & Kottkamp, 1993:32).

Investigation of the literature on action research reveals that its goals, like those of reflective practice, are to bring about changes in the classroom and improve educators’ effectiveness, while enhancing professional growth (Carr & Kemmis, 1986:165-175; Parsons & Brown, 2002:5; Hopkins, 1993:44; Noffke & Stevenson, 1995:3; Cochran-Smith & Lytle, 1993; Elliot, 1991:53). Parsons and Brown (2002:4) conclude that the value of reflective thinking is extended when it is supported by data gathered by means of systematic observation and specific data collection methods. When educators apply these methods, they are entering the domain of action researchers, who systematically gather and analyse information about their own and colleagues’ practice, form hypotheses and write reports. The insights gained from this kind of experience are important components in the growth of educators’ personal, professional and practical knowledge (Parsons & Brown, 2002:4; Day, Pope & Denicolo, 1990:223; 225-228; Pollard & Triggs, 1997:65-66).

Research question and aim

The report, Norms and Standards for Educators, published by the Department of National Education (DoE)(1998:1-2), summarises policy regarding the qualifications of educators and the evaluation of these qualifications, which are “linked to the applied competences required by an educator which are spelled out in the seven roles which are designed to meet the professional, academic and occupational requirements of educators” in the South African education context. In this document (DoE, 1998:50; 52-55; Thomen, 2005: 819), one of the seven educator roles, namely, “scholar, researcher and life-long learner” and its applied competences, specifies that educators should also research their own teaching as reflective practitioners, relating theory to practice and seeking to “accomplish personal, academic, occupational and professional growth” to improve their own practice (DoE, 1998:50; 52-55; Thomen, 2005:820).

In view of the absolute necessity for educators to be reflective thinkers and undertake action research, the following research question was formulated: *How should educators be trained and assisted to become reflective decision-making professionals who can improve their teaching performance in the OBE classroom through action research?* To address this research question,

the concepts of decision-making, reflection and action research in teaching were investigated in the literature. Using these conceptual supporting structures, a strategy has been suggested whereby aspiring and practising educators can be encouraged and guided to accept the role of researcher in their own classroom practice as part of their professional, reflective position.

Decision-making in teaching

Teaching today places educators in an environment where complex interpersonal relationships require constant mediation in order for parties to reach working agreements while balancing a multiplicity of tasks and roles. Moreover, this activity takes place in a social and political context within a culturally diverse society facing economic constraints. For example, South African educators are increasingly facing changes in the complex social context in which they work and for which they may not have been trained.

Most of the daily work of the classroom educator necessitates appraisal and the making of decisions that are in the best interests of the learners, often with limited information (Reagan *et al.*, 2000:19; DiGiulio, 2000:4). Pasch *et al.* (1991:1) remark that educators have great scope to flex and stretch their decision-making powers. Firstly, they make *planning decisions*, such as selecting and scrutinising content, writing objectives (outcomes), choosing the most suitable learning activities, and evaluating instruction. Secondly, they make *implementation decisions* as they plan and teach lessons, make arrangements for individual learners' needs and increase their learners' thinking skills. Finally, they make decisions about *classroom management*, applying their opinions and principles to initiate and sustain a positive learning environment (Pasch *et al.*, 1991:1; Reagan *et al.*, 2000:19-20; Iverson 2003:41). These decisions are made continually and happen before (planning), during (action) and after (reflection) teaching (Pasch *et al.* 1991:4).

Furthermore, for educators to be efficacious, they should be active participants in the classroom and observers of the learning and teaching process, assessing and interpreting the data presented in the classroom situation and using that knowledge, along with academic theory and research, as a basis for planning and decision-making (Parsons & Brown, 2002:ix; Zeichner & Liston, 1987:24). These actions require reflective thinking, which may enhance the effectiveness of educators' decision-making (Pasch *et al.*, 1991:3).

Educators as reflective thinkers

A number of contemporary teacher trainers, such as Zeichner and Liston (1987:24-25), Schön (1987) and Cruickshank (1987), have focused their attention on educator reflection to describe an educator's instructional and managerial decision-making (Pasch *et al.*, 1991:3). It is difficult to pinpoint the exact meaning of the concept *reflection*, as there are a range of opinions regarding reflection and how it becomes manifest in action. For Dewey, the noted American philosopher of education who wrote about the need for reflective thinking as early as 1903 and dealt extensively with the role of

reflection in both *How we think* (1910; 1933) and *Logic: the theory of inquiry* (1938), logical theory and analysis were a generalisation of the reflective process in which we all engage from time to time. Dewey (1933:120;175, cited in Brunner, 1994:33) stated the following: “[R]eflective thinking ... involves a state of doubt, hesitation, perplexity, mental difficulty ... [Reflective] persons ... weigh, ponder, [and] deliberate ... a process of evaluating what occurs to them in order to decide upon its force and weight for their problem”. This should imply a state of renewal, as the process includes close examination of events or issues and “turning things over and seeing them in new ways” (Brunner, 1994:34).

An analysis of different definitions of reflection by Rogers (2001:41) demonstrates that reflection can be seen as a cognitive and affective process that necessitates active commitment on the part of the teacher (Dewey, 1933:9; Loughran, 1996:14; Schön, 1987:31); is initiated by an unusual or puzzling situation or experience (Dewey, 1933:9; Loughran, 1996:14; Mezirow, 1991:104; Boud, Keogh and Walker, 1985:19); entails examining one’s reactions, beliefs and theories in the light of the situation at hand (Leitch & Day, 2000:182; Connelly & Clandinin, 1990:190; Copeland *et al.*, 1993, cited in Parsons & Stephenson, 2005:96-97), and culminates in the combination of the new understanding and deeper insight into one’s experiences (Newell, 1996:568; Siebert & Daudelin, 1999:xi; xvi; Parsons & Stephenson, 2005:97). Boyd and Fales (1983:100-101) define reflection as “the process of internally examining and exploring an issue of concern, triggered by an experience, which creates and clarifies meaning in terms of self, and which results in a changed conceptual perspective”.

An investigation of the various approaches to reflection unveils both considerable diversity and a number of commonalities in the process by which reflection is thought to occur (Rogers, 2001:44; Colton & Sparks-Langer, 1993:49). In this regard, Boyd and Fales (1983:105) conclude that “reflection is not a one-way, linear process, it is ... [an] alternating current, flowing back and forth, ...” [and] “[e]ach individual, ... does it differently”. Some state that the reflective process varies, depending on the timeframe or the dimensions within which it occurs (Rogers, 2001:44; Zeichner & Liston, 1996:46-47; Schön, 1983).

Notwithstanding these variations in the process of reflection, Rogers (2001:44-45) identified the following commonalities among the theoretical approaches he explored. Firstly, nearly all the approaches begin with problem identification and a deliberate decision to seek a solution (Dewey, 1933; Boud *et al.*, 1985; Langer, 1989; Seibert & Daudelin, 1999; Schön, 1983; Loughran, 1996; Mezirow, 1991). Secondly, most models address the collecting of additional information regarding the problem prior to taking further action and include the phases of hypothesis and reasoning, acquiring, organising, and examining information, making assumptions and drawing conclusions (Dewey, 1933; Boud *et al.*, 1985; Langer, 1989; Seibert & Daudelin, 1999; Schön, 1983). Thirdly, the important step of data collection, which results in a plan

and a decision, shows that changes have taken place in the educator's thinking. Reflection prepares the individual for new experiences and produces new skills, ideas and even cognitive maps. Reflection leads to a new understanding or a new theory or frame (Boud *et al.*, 1985; Mezirow, 1991; Seibert & Daudelin, 1999; Schön, 1983), and finally, as indicated in most approaches, takes actions based on the reflective process, tests the new findings in practice and generates new understanding of the phenomenon (Dewey, 1993; Loughran, 1996; Boud *et al.*, 1985; Mezirow, 1991; Seibert & Daudelin, 1999). Since outcomes-based education (OBE) represents a shift from routine actions rooted in common-sense thinking to reflective action stemming from professional thinking in South African schools, educators should be equipped through training to engage in the abovementioned process of reflection by thinking critically and creatively and talking about any problematic aspects of their teaching to empower them increasingly to implement appropriate classroom management strategies to ensure effective and efficient instruction. Educators' personal practical knowledge, which may be defined as the "knowledge which is imbued with all the experiences (thoughts, feelings and tacit concerns of the practitioner's 'craft') that make up a person's being" (Clan-dinin, 1985:362) shapes a practitioner's response to a situation and therefore plays a crucial role in the process of reflection. Educators understand and practise reflective thinking in the sense that they are actively involved at a level of unconscious reflection where they automatically and intuitively decide how to respond to learners' behaviour in the classroom. When unexpected problems crop up in the classroom, they reflect-in-action by thinking, acting simultaneously, reframing the problem and modifying ongoing practice in such a way that teaching and learning still take place (Leitch & Day, 2000: 180).

Structured reflection, on the other hand, requires educators to engage in reflection by thinking critically and creatively and discussing any problematic aspects of their teaching, which, in turn, empowers them to implement appropriate classroom management strategies to ensure effective instruction. Pre-service and in-service educators should be encouraged through professional development programmes to make time to develop and describe action plans, return to these plans, evaluate them critically (recapturing the pedagogical principles and subjecting them to interrogation) and, if necessary, refine the plans.

Pre-service and in-service educators should be constantly reminded that the process of reflection should be viewed as a continuous spiralling process in which educators continually observe, evaluate and improve their own teaching practice and in which challenging situations lead to reflection and ultimately to new interpretations and awareness (Rogers, 2001:45; Pollard & Triggs, 1997:11; Eby, 1998:13; Osterman & Kottkamp, 1993:20; Boyd & Fales, 1983:105). Reflective thinking should help the educator to deepen comprehension and develop a more refined competence to choose from an im-

sing series of applicable choices and to act on and implement them effectively in his or her teaching practice (Rogers, 2001:45).

Structured reflection through action research

When educators are encouraged to use structured approaches (data collection through systematic observations and data collection procedures) as a method of investigating problematic situations in their teaching practice, they enter the sphere of action research (Parsons & Brown, 2002:4). Pre-service educators and in-service educators should receive proper training to assist them to use action research as a strategy or tool to enhance and encourage their reflective teaching practice in an attempt to improve and pursue methods that will assist them in understanding and improving their instructional and classroom management, thereby “promoting educational change” (Price, 2001:43; Van der Horst & McDonald, 2003:82; Parsons & Brown, 2002:4; Gore & Zeichner, 1991:119; Lloyd, 2002:112; Taylor, 2001:407).

Some researchers see action research coincidentally as an individual and collaborative project (Price, 2001:44). Inherent in the action research process are the ideals of social justice and equity as continuing teaching and schooling practices are questioned critically and transformed (Carr & Kemmis, 1986:162-166; Cochran-Smith & Lytle, 1993:8; 24; Noffke & Stevenson, 1995:4-5; Gore & Zeichner, 1991:121-123; Price, 2001:45; Hopkins, 1993:44-46; Lloyd, 2002:112). Price (2001:44) indicates that this viewpoint implies that if educators were to meticulously analyse the conditions and contexts of their classroom practice, it would help them revise and change their teaching practice in a way that would suit their unique circumstances. Therefore, South African educators, who are facing educational reform the aim of which is to improve society through the implementation of a curriculum that is based on outcomes-based education (OBE), should research their own teaching as reflective practitioners, relate theory to practice and seek to improve their own practice by action research projects. Noffke and Stevenson (1995:7) explain, “[a]ction research, then, carries with it the dual potential of helping pre-service and in-service teachers to seek alternatives to current practice and also of helping them reproduce what already exists”. In-service educators should be given the time and opportunities to analyse and reflect upon the rationale, intentions and consequences of their teaching practice for change (Price, 2001:45).

Definitions of action research in the literature differ noticeably. Carr and Kemmis (1986:162; Kemmis & McTaggart 1988:5-6) define action research as “a form of self-reflective enquiry undertaken by participants in social [including educational] situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out”. Participants at a National Invitational Seminar on Action Research at Deakin University, Geelong, Victoria in May 1981 (Brown, Henry, Henry & McTaggart 1982), agreed on a definition of educational action research which was slightly edited by Carr and Kemmis (1986:

164-165). It includes the long recognised four-stage problem-solving approach of the cycle (spiral) of collectively planning, acting, observing and reflecting, and also gives central importance to strategic action and social practice (Taylor, 2001:408; Price, 2001:49; Annison, 2002:97-98; Lloyd, 2002:113).

According to Carr and Kemmis (1986:165), the obvious aims of action research are actions of *improvement* and *involvement*, i.e. firstly, the improvement of teaching practice, secondly, the improvement of the perception or understanding of teaching practice by its practitioners, and thirdly, the improvement of the concrete problematic situation by joint collaboration of all involved in action research. This entails a cyclical inquiry that involves planning, acting, observing and reflecting and then re-planning, further action, further observation and further reflection (Hopkins, 1993:44-45; Noffke & Stevenson, 1995:4-5; Elliot, 1978:356; Carr & Kemmis, 1986:184). Parsons and Brown (2002:8) and Pollard and Triggs (1997:66) conceptualise action research as “a *cyclical inquiry process* that involves identifying and defining a problem, developing action steps as a way of resolving the problem or improving the situation, implementing those action steps, and ... evaluating the outcomes”. Action research employs various methodologies, but the key to a successful investigation lies in the concrete problems researched and the degree to which they are used to adjust practice to “maximise effectiveness” (McLean, in Parsons & Brown, 2002:7-9).

Although there is an increased awareness of action research as an understandable and workable approach to the improvement of practice, definitions, such as the above, do not necessarily provide structured guidelines or useful models of action research to help pre-service and in-service educators as practitioners to use the (action research) processes to become self-critical action researchers in their own practices (Price, 2001:43; Carr & Kemmis, 1986:167; Parsons & Brown, 2002:x; 8). According to Hopkins, (1993:46; 48), a number of action research models are based on Lewin’s original idea, which was used as an approach for investigating major social problems during the post-war period. His thoughts were applied to education by Corey (1953).

Hopkins (1993:48-53) discussed four practical models of action research and concluded that there is a high degree of consensus among these writers about its overall method and purpose. According to Hopkins (1993:48), Kemmis (Kemmis & McTaggart, 1988) outlined in his “action research planner”, a sequential programme for teachers who want to engage in action research. Elliot (1991:71-76) used Kemmis’s schema of the action research spiral and developed a more elaborate model. Hopkins (1993:51) quoted Ebbutt (1985), who claimed that the process of action research comprises a series of successive cycles which cannot easily be demonstrated and provided a diagrammatic representation of his ideal process of action research. McKernan (1991:19) suggested a “time process” model which stressed (a) that an action research “problem” should not be allowed to become too rigidly adjusted with time, and (b) that there should be logical problem-solving and democratic ownership by all participants involved (collaborative nature).

Steketee (2004:2) considered the shortcomings and strengths of these and

other action research models and came up with a “tentative plan of action research”, which needed to be straightforward enough to guide the research process, yet adaptable enough to incorporate the multifaceted nature of classroom problems. This tentative “map” or plan of action research reflects the relationship between the planning, acting, observing and reflective phases of the inquiry, as proposed by Lewin(1946), Kemmis & Taggart (1982), Elliott (1991), and the need for logic and order, as proposed by Ebbutt (1983). It also reflects the “multi-layered” approached by Ritchie (1995), where the outcomes of previous cycles were used in each new cycle to inform new insights, demands and proposed proceedings (Steketee, 2004:3).

It is necessary to point out that the prevailing criticisms of these models have been used as a basis for refining and improving action research (Hopkins,1993:55). Hopkins (1993:54-55) criticises the closely held stipulation of a series of repetitive steps and cycles of these models as having the capability to “trap teachers within a framework which they may come to depend on and which will, consequently, inhibit independent action”. The visual diagrams that represent the action research process are of varying complexity and are not always helpful; in fact they may discourage possible users. Criticism of models of action research may lead to “new” models which the designer(s) may see as the “right” answer to simplifying the process of action research (Steketee 2004:2-3). Zeichner (1993:200-201) says of these debates, “a lot of this discourse, although highly informative in an academic sense, is essentially irrelevant to many of those who actually engage in action research ...”

Taking into consideration some of the elements from the abovementioned models of action research (classroom research by educators, Hopkins 1993: 56), an adapted model of the action research spiral may be offered to the in-service educator as a starting point or as an initial guide to action. It could also provide educators with a tool for developing their reflective skills and it has the potential to influence change and enhance professional development in practice in the outcomes-based classroom situation. As stated earlier, although action research is described as a process with definite separate steps, it should rather be seen as a process of moving back and forth across these steps as the data the educator obtains constantly shape practice decisions differently and lead to more questions and the gathering of more data (Parsons & Brown, 2002:159). The action steps employed in the suggested action research model to improve classroom practice and solve everyday practical problems may help educators find alternatives to current practice by gathering data and using them to generate meaning, which then is fed back into the system. This may lead, in turn, to improved action.

An action research model for educators

Zuber-Skerritt (2002:143-144) explains a model as the portrayal of a theory or message or system in the form of a two-or three-dimensional diagram. The model used in this article is based on qualitative data from literature sources. The model can be used as a starting point or guide for beginner action researchers in education (classroom practice).

Within the paradigm of critical theory, action research is used as a form of investigation that enables classroom educators to critically examine issues of interest in the context of their classrooms in an attempt to improve their own practice (Carr & Kemmis 1986:131-162; Wright & Marquez 2006:1-2; Tripp 1992:13).

At the simplest level, action research entails a cyclical inquiry that involves planning, acting, observing and reflecting, and then, as a result, re-planning, further action, further observation and further reflection (Hopkins, 1993:44-45; Noffke & Stevenson, 1995:4-5; Elliot, 1978:356; Carr & Kemmis, 1986:184), as illustrated in Figure 1.

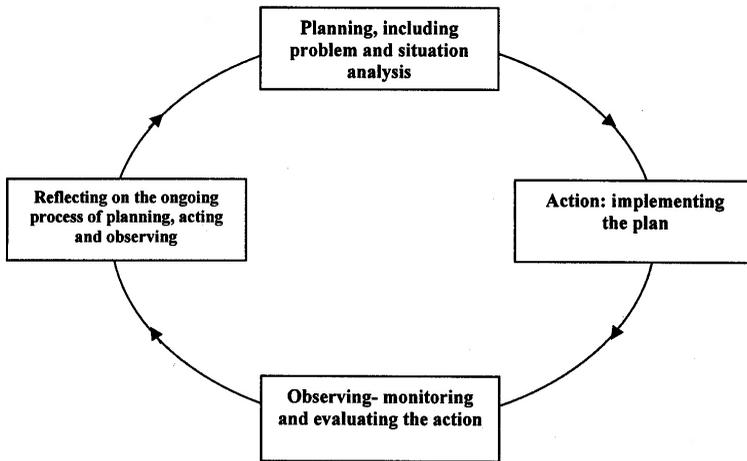


Figure 1 Action research cycle

The steps of an adapted action research model for in-service and pre-service educators, as illustrated in Figure 2, are outlined below (Elliott, 1991: 69-89; Parsons & Brown, 2002:158-169; Knowles, Gilbourne, Borrie & Nevill, 2001: 185-187).

The model is offered as a guideline, a suggestion on how a researcher may proceed. The steps are explained fully for the first cycle; they are repeated in subsequent cycles with the necessary adjustments.

The first cycle

Developing a question/problem or research focus

When asking what can be done to strengthen educator competence in outcomes-based education, educators may immediately call to mind certain issues of concern that they would like to change or improve. Efficient and professional South African educators may find that previously used methods and contents, which produced good results in their subjects, no longer work

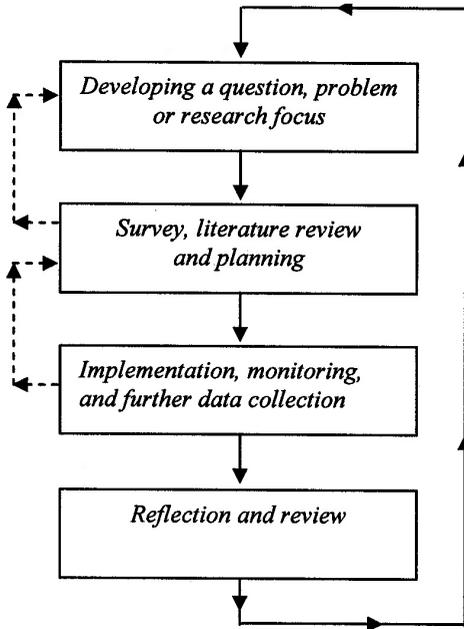


Figure 2 Action research model

owing to important pedagogical issues related to matters such as student diversity, the outcomes-based approach and the challenge of dealing with diversity and curriculum change in the classroom situation. These educators are faced with dilemmas that must be solved. These possible problems require that educators use both professional knowledge and rational decision-making skills (craft knowledge or knowledge in action) after discussions and careful, thoughtful reflection to be able to take action in response to problems (Reagan *et al.*, 2000:17; Knowles *et al.*, 2001:185; 186). At this stage, the educator (as an action researcher) can define a preliminary researchable question. Two examples are given here:

- What teaching and learning strategies should be followed when teaching second-language learners who are not proficient in the language of teaching and learning in a culturally diverse outcomes-based classroom?
- What strategies could be followed when teaching accounting to linguistically diverse learners in an outcomes-based education classroom?

Survey, literature review and planning

Educators could begin their research by discussing the issues with fellow researchers, colleagues from their school and neighbouring schools, principals, and/or learners and parents to obtain their viewpoints and recommendations.

This could be done through interviews, questionnaires and focus group interviews. Even at this early stage of the cyclical action research process, the educator could use the new information gleaned from fruitful discussions with the relevant role-players to redefine the problem or question more meaningfully. This should give the educator valuable information on the possible nature of the issue he or she wants to change or improve. At this stage, the most likely strategy or strategies identified by the educator for use in teaching may be selected (Parsons & Brown, 2002:11).

For the educator as an action researcher a literature review, to obtain professional knowledge, is an essential means of data collection and should also provide valuable information on the research issue(s) (Parsons & Brown, 2002:18). Apart from existing literature, relevant documents such as curriculum reports, Department of Education policies, and pertinent research articles can provide important data. On the basis of the discussions and literature review, the educator may conclude that the research question could take the form of a research hypothesis or assumption.

A research hypothesis or a qualitative research assumption is a statement that suggests a research outcome of an association between the facts of the problems (Parsons & Brown, 2002:21; Elliot, 1991:74). The educator should, for instance, select two well-defined outcomes he or she hopes to achieve. For example, in the case of the abovementioned questions, he or she could select the following outcomes:

- A transitional approach to English as the language of learning and teaching should be adopted for second-language learners who are inadequately prepared for a sudden transition to English.
- In-class enrichment activities in accounting, such as detailed and illustrated written explanatory notes, should be introduced to meet the needs of second-language learners.

A general plan of action (method or approach used to study issues of interest), where the researcher determines how the problem will be addressed, should include the revised problem statement or hypothesis, the specific aspects that the educator needs to change or improve to be able to rectify the situation (Elliot, 1991:75), the resources needed to undertake the proposed courses of action and the methods that provide accurate data collection such as quantitative research (data that can be manipulated via statistical analysis) and/or qualitative research (observations, artefacts, documents as sources of information) to address the problem (Parsons & Brown, 2002:45-70; Elliot, 1991:75); any necessary involvement of others such as colleagues or superiors to mediate the recommended action steps to be taken (Elliot, 1991:75); a description of the basic ethical system that would be followed, if necessary (Elliot, 1991:75); a statement of the plans and/or methods that would be implemented to solve the problems; and an estimate of how, when and how often the outcome would be assessed (Parsons & Brown, 2002:167). The steps (actions) that the educator proposes to take should be recorded in detail (Parsons & Brown, 2002:167).

Implementation (action), monitoring of implementation and further data collection
The educator should decide precisely which of the actions outlined in the general plan are going to be implemented at this stage and how both the implementation procedure and its outcomes will be monitored (Elliot, 1991: 76). The types of data collected as well as the data gathering methods will be affected by the nature of the problem. The educator should collect the data that might have an impact or effect on the educator's actions, such as data on the learners' responses. The methods and techniques used for data collection (e.g. test scores, frequencies of behaviours and learner self-reports) should reveal whether the decisions taken and the strategies had a positive effect and met the needs of the learners in the classroom situation (Parsons & Brown, 2002:24).

Reflection and review

If the strategy works for the learners, but is very time-consuming, or if the outcome is not satisfactory, the educator should start rethinking and refining the problem area and reframing the questions until more clarity is found on more appropriate use of the identified strategy to ensure a positive impact on learning (second cycle of planning, acting, observing [monitoring] and reflecting). Modified solutions and successive understandings could be created by the way questions are asked (Battaglia, 1995:90). If educators continually keep asking questions about their teaching practice, it will keep them focused. By doing this, educators are always thinking about (reviewing and reflecting on) or attempting to improve a particular aspect of their practice (Battaglia, 1995:89). If the educators want to try implementing another strategy, they should return to the strategies identified in the first stage, select one of the remaining strategies and start to recycle through the stages of the process to examine their effectiveness (Parsons & Brown, 2002:165).

The second cycle would also follow the stages described.

Conclusion

In this article I used a literature review to investigate the concepts of decision-making, reflection and action research in teaching, to highlight the kinds of processes that can be followed to guide pre-service and in-service educators to become reflective decision-making professionals who are able to improve their teaching performance in the outcomes-based classroom through action research. For educators, action research should go beyond common sense. Through the rigour of scientific inquiry it should enable them to investigate classroom issues and incorporate a satisfactory outcome in an attempt to improve their teaching effectiveness (Parsons & Brown, 2002:4; Brunner, 1994:47). The action research model presented could be a starting point and a useful guide to pre-service and in-service educators who are trying to improve their decision making on teaching strategies. The ultimate result envisaged is enhanced educator effectiveness. Such a model could be used as a tool for facilitating positive changes in a classroom and form part of professional development programmes for pre-service and in-service educators.

It is recommended that the Department of Education should urgently become intensively involved in planning and implementing strategies to develop a self-aware teaching population, capable of reflection and of providing the best possible learning situations for learners (Leitch & Day 2000:186), in a South African environment characterised by social and cultural diversity, social violence, increasing economic rivalry and personal disturbance. Policy-makers are urging educators to become lifelong learners in the demanding and complex world of the classroom and school. However, demands on educators' time are increased by the multiple administrative responsibilities brought about by reform policies, mandates, programmes, memos, lengthy documents and information sessions conducted by the Department of Education officials with the object of changing almost every aspect of teaching and learning and classroom management. Moreover, these national reform initiatives have not been entirely successful, since they have added more residual rules and accountability mechanisms to school organisation. These actions compromise the educator's potential of raising standards of teaching, learning and achievement in conditions where learners are disillusioned with schooling and educators are struggling to make noticeable strides in diverse, overcrowded classrooms and to meet the increasingly bureaucratic demands of accountability to parents and employers (Leitch & Day, 2000:189).

References

- Annisson J 2002. Action research: Reviewing the implementation of a distance-learning degree programme utilizing communication and information technologies. *Innovations in Education and Teaching International*, 39:95-106.
- Bataglia C 1995. Confused on a higher level about more important things! In: Noffke SJ & Stevenson RB (eds). *Educational action research: Becoming practically critical*. New York: Teachers College Press.
- Boud D, Keogh R & Walker D 1985. *Reflection: Turning experience into learning*. London: Kogan Page.
- Boyd EM & Fales AW 1983. Reflective learning: Key to learning from experience. *Journal of Humanistic Psychology*, 23:99-117.
- Brown L, Henry C, Henry J & McTaggart R 1982. Action researchers: notes on the national seminar. *Classroom Action Research Bulletin*, 5:1-16.
- Brunner DD 1994. *Inquiry and reflection: Framing narrative practice in education*. New York: State University of New York Press.
- Burgess R (ed.) 1985. *Issues in educational research*. Lewes: Falmer Press.
- Carr W & Kemmis S 1986. *Becoming critical: Education, knowledge and action research*. London: The Falmer Press.
- Clandinin J 1985. Personal practical knowledge: A study of teachers' classroom images. *Curriculum Inquiries*, 15:361-385.
- Cochran-Smith M & Lytle SL 1993. *Inside/outside: Teacher research and knowledge*. New York: Teachers College Press.
- Colton A & Sparks-Langer GM 1993. A conceptual framework to guide the development of teacher reflection and decision-making. *Journal of Teacher Education*, 44 :45-54.
- Connelly F & Clandinin D 1990. Stories of experience and narrative inquiry. *Educational Researcher*, 19: 2-14.
- Copeland WD, Birmingham, C, De la Cruz E & Lewin B 1993. The reflective

- practitioner in teaching: towards a research agenda. *Teaching and Teacher Education*, 9:347-359.
- Corey S 1953. *Action research to improve school practice*. New York: Teacher's College Press.
- Cruikshank DR 1987. *Reflective teaching*. Reston, VA: Association of Teacher Educators.
- Day C 1990. The development of teachers' personal practical knowledge through school-based curriculum development projects. In: Day C, Pope M & Denicolo P (eds). *Insights into educators' thinking and practice*. London: Falmer Press.
- Day C, Pope M & Denicolo P (eds) 1990. *Insights into educators' thinking and practice*. London: Falmer Press.
- Denscombe M 1998. *The good research guide for small-scale social research projects*. Buckingham: Open University Press.
- Department of National Education (DoE) 1998. *Final Report of the Technical Committee on the Revision of Norms and Standards for Educators*. Pretoria: Department of Education.
- Dewey J 1933. *How we think: A restatement of the relations of reflective thinking to the educative process*, 2nd rev. edn. Lexington, MA: D C Heath.
- Dewey J 1938. *Logic: The theory of inquiry*. New York: Henry Holt.
- DiGiulio R 2000. *Positive classroom management*, 2nd edn. Thousand Oaks, CA: Corwin Press.
- Ebbutt D 1985. Educational action research: Some general concerns and specific quibbles. In: Burgess R (ed.). *Issues in educational research*. Lewes: Falmer Press.
- Eby JW 1998. *Reflective planning, teaching, and evaluation K-12*, 2nd edn. Upper Saddle River, NJ: Prentice Hall.
- Elliott J 1991. *Action research for educational change*. Philadelphia: Open University Press.
- Gore JM & Zeichner KM 1991. Action research and reflective teaching in pre-service teacher education. *Teaching and Teacher Education*, 7:119-136.
- Hopkins D 1993. *A teacher's guide to classroom research*, 2nd edn. Buckingham: Open University Press.
- Iverson AM 2003. *Building competence in classroom management and discipline*, 4th edn. Upper Saddle River, NJ: Merrill Prentice Hall.
- Johansson T & Kroksmark T 2004. Teachers' intuition-in-action: How teachers experience action. *Reflective Practice*, 5:357-381.
- Johnson D & Johnson R 1994. *Learning together and alone: Cooperation, competition and individualization*, 4th edn. Boston: Allyn and Bacon.
- Kemmis S 1982. Action research in retrospect and prospect. In: *The Action Research Reader*, Deakin University. Victoria: Deakin University Press.
- Kemmis S 1983. Action research. In: Husen T & Postlethwaite T (eds). *International Encyclopedia of Education: Research and Studies*. Oxford: Pergamon.
- Kemmis S & McTaggart R 1988. *The action research planner*. Victoria: Deakin University Press.
- Korthagen F & Vasalos A 2005. Levels in reflection: Core reflection as a means to enhance professional growth. *Teachers and teaching: Theory and Practice*, 11:47-71.
- Knowles Z, Gilbourne D, Borrie A & Nevill A 2001. Developing the reflective sports coach: A study exploring the processes of reflective practice within a higher education coaching programme. *Reflective Practice*, 2:185-207.
- Langer EJ 1989. *Mindfulness*. Reading, MA: Addison-Wesley Publishing.
- Leitch R & Day C 2000. Action research and reflective practice: Towards a holistic

- view. *Educational Action Research*, 8:179-193.
- Lewin K 1946. Action research and minority problems. *Journal of Social Issues*, 2:34-36.
- Lloyd C 2002. Developing and changing practice in special educational needs through critically reflective action research: A case study. *European Journal of Special Needs Education*, 17:109-127.
- Loughran J J 1996. *Developing reflective practice: Learning about teaching and learning through modeling*. Washington, DC: Falmer Press.
- McKernan J 1991. *Curriculum action research*. London: Kogan Page.
- McLean J E 1995. *Improving education through action research: A guide for administrators and teachers*. Thousand Oaks, CA: Corwin Press.
- Mezirow J 1991. *Transformative dimensions of adult learning*. San Francisco: Jossey-Bass.
- Miettinen R 2000. The concept of experiential learning and John Dewey's theory of reflective thought and action. *International Journal of Lifelong Education*, 19:54-72.
- Newell S T 1996. Practical inquiry: Collaboration and reflection in teacher education reform. *Teaching and Teacher Education*, 12:567-576.
- Noffke SE & Stevenson RB (eds) 1995. *Educational action research: Becoming practically critical*. New York: Teachers' College Press.
- Osterman KF & Kottkamp RB 1993. *Reflective practice for educators*. Newbury Park, CA: Corwin Press.
- Parsons RD & Brown KS 2002. *Educator as reflective practitioner and action researcher*. Belmont: Wadsworth.
- Parsons M & Stephenson M 2005. Developing reflective practice in student educators: collaboration and critical partnerships. *Educators and Teaching: Theory and Practice*, 11:95-116.
- Pasch M, Sparks-Langer G, Gardner TG, Starko J & Moody CD 1991. *Teaching as decision-making: Instructional practices for the successful educator*. New York: Longman Publishing Group.
- Pollard A & Triggs P 1997. *Reflective teaching in secondary education*. London: Cassell.
- Price JN 2001. Action research, pedagogy and change: The transformative potential of action research in pre-service teacher education. *Journal of Curriculum Studies*, 33:43-74.
- Reagan T, Case CW & Brubacher JW 2000. *Becoming a reflective educator*, 2nd edn. Thousand Oaks, California: Corwin Press.
- Ritchie R 1995. Constructive action research: a perspective on the process of learning. *Educational Action Research*, 3:305-322.
- Rogers RR 2001. Reflection in higher education: A concept analysis. *Innovative Higher Education*, 26:37-57.
- Schön D 1983. *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Schön D 1987. *Educating the reflective practitioner*. San Francisco: Jossey-Bass.
- Siebert KW & Daudelin MW 1999. *The role of reflection in managerial learning; Theory, research, and practice*. Westport, CT: Quorum.
- Smyth WJ 1987. *A rationale for teachers' critical pedagogy: A handbook*. Victoria, Australia: Deakin University Press.
- Smyth WJ 1989. Developing and sustaining critical reflection in teacher education. *Journal of Teacher Education*, 40:2-9.
- Steketeetee C 2004. *Action research as an investigative approach within a computer based community of learners*. Available at <http://www.ascilite.org.au/>

- conferences/perth04/procs/steketee.html. Accessed 26 September 2008.
- Taylor B 2001. Identifying and transforming dysfunctional nurse-nurse relationships through reflective practice and action research. *International Journal of Nursing Practice*, 7:406-413.
- Thomen C 2005. Education practitioners' understanding of professional development and associated competencies. *South African Journal of Higher Education*, 9:813-821.
- Tripp D 1992. *Critical theory and educational research*. Available at <http://www.iier.org.au/iier2/tripp.html>. Accessed 2 October 2008.
- Van der Horst H & McDonald R 2003. *Outcomes-based Education: Theory and practice*. Irene: Tee Vee.
- Wright R & Marquez C 2006. *From critical theory to action research or Why this feels empowering*. Available at <http://www.wisdomineducation.org/journal/springsummer>. Accessed 2 October 2008.
- Zehm SJ & Kottler JA 1993. *On being a teacher: the human dimension*. Newbury Park, California: Corwin Press.
- Zeichner KM & Liston DP 1987. Teaching student teachers to reflect. *Harvard Educational Review*, 57:23-48.
- Zeichner KM 1993. Action research: personal renewal and social reconstruction. *Educational Action Research*, 1:199-219.
- Zeichner KM & Liston DP 1996. *Reflective teaching: An introduction*. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Zuber-Skerritt O 2002. *A model for designing action learning and action research programs*. Available url:<http://www.emeraldinsight.com/o969-6474.htm>. Accessed 2 October 2008.

Author

Daneel Rossouw is Senior Lecturer in the College of Human Sciences at the University of South Africa. She has multiple tuition responsibilities and her research interests are educator development, practical teaching, and the practice of reflection in the classroom.