

The role of reflection in single and double loop learning

Jennifer Greenwood RN RM DipN RNT DipEd MEd PhD FRCNA

Professor of Nursing, Western Sydney Area Health Service/UWS Nepean, Nursing
Professorial Unit, Level 2, Nursing Education, Westmead Hospital, Westmead, NSW
2145, Australia

Accepted for publication 27 April 1997

GREENWOOD J. (1998) *Journal of Advanced Nursing* 27, 1048–1053

The role of reflection in single and double loop learning

A recent review of the literature on reflective practice in nursing indicates that approaches to its promotion in the United Kingdom and Australia appear to differ. In the United Kingdom, these approaches promote single-loop learning whereas in Australia the approaches adopted attempt to promote double-loop learning. In this paper single and double-loop learning will be defined and the limitations of single-loop learning in nurse education will be discussed. In addition, definitions of reflective practice, the purposes it is claimed to serve and a range of frameworks developed to promote its development will be reviewed. Inconsistencies between espoused purposes and suggested frameworks will be discussed. The paper will also include a description of recent initiatives implemented in Western Sydney, Australia, to foster nurses' double-loop learning.

Keywords: reflection, reflective practice, journalling

INTRODUCTION

A recent review of the now extensive literature on reflective practice in nursing indicates that two approaches tend to predominate. The first approach promotes single-loop learning, and the second double-loop learning. These differing approaches are underpinned by a range of definitions of reflective practice which, in turn, generate different frameworks for reflective practice. Interestingly, approaches to the promotion of reflective practice appear to differ between the United Kingdom and Australia.

In this paper I will argue that double-loop learning is the aim of all seriously reflective practitioners in nursing but, somewhat paradoxically, that this will be best achieved through a conflation of British 'single-loop' and Australian 'double-loop' approaches. In order to do this I will define single and double-loop learning and critically review dominant approaches to reflective practice in the United Kingdom and Australia. This will involve both a review of the definitions of reflective practice which oper-

ate and the frameworks for reflection which these definitions generate.

SINGLE AND DOUBLE-LOOP LEARNING

The concepts of single and double-loop learning arise from Argyris and Schon's theory of action (Argyris & Schon 1974, 1978, Argyris 1976, 1980, 1982, 1985, Argyris *et al.* 1985) which views human agents as designers of action. According to these authors, human agents design action to achieve certain ends or consequences and they monitor ongoing action and its consequences to assess its effectiveness. Human agents make sense of the contexts within which they function by constructing mental representations or concepts of them and these, in turn, guide the design of action. By monitoring the relative effectiveness of action, therefore, human agents also monitor the adequacy of their constructions of the contexts in which such action takes place.

The constructions of contexts and prescriptions for action that are designed to achieve desired outcomes in

them are known as action theories (Argyris & Schon 1974). Action theories are of two types, namely espoused theories and theories in use. Espoused theories are the theories to which human agents claim allegiance, whereas, and as their name implies, theories-in-use are the theories which manifest in, or can be inferred from, action.

What this implies is that human action may or may not be consistent with a person's espoused theories but it is always consistent with her theories-in-use. Human action is never accidental nor atheoretical. As Argyris *et al.* (1985 p. 82) argue, people 'do not just happen to act in a particular way. Rather, their action is designed; and, as agents, they are responsible for the design'.

Of course, theories-in-use may not be explicitly held; many are tacit and can be made explicit through reflection on action (Schon 1983, 1987). They may also be rendered explicit when their adequacy and/or accuracy is disconfirmed or challenged, that is, when they fail to achieve the desired consequences. In this event, human agents may respond in two ways. Firstly, they may search for other means (action theory) to achieve the same end. This level of response, i.e. merely to change the actions intended to lead to the same outcomes, is what Argyris *et al.* (1985) term single-loop learning. The second type of response reflects double-loop learning. In double-loop learning the agent does not merely search for alternative actions to achieve her same ends; she also examines the appropriateness and propriety of her chosen ends. Double-loop learning therefore involves reflection on values and norms and, by implication, the social structures which were instrumental in their development and which render them meaningful. By reflecting on the world they are instrumental in creating, human agents can learn to change it in ways that are more congruent with the values and theories they espouse.

REFLECTIVE PRACTICE

Views on the nature of reflective practice appear to differ. To Schon (1983, 1987) it has two components, to Boud *et al.* (1985) it has three; similarly, Greenwood (1993) believes it has three, whereas Boud (1992) believes it has four.

To Schon, reflective practice involves reflection-in-action and reflection-on-action. Reflection-in-action means to think what one is doing while one is doing it; it is typically stimulated by surprise, by something which puzzles the practitioner concerned. As the practitioner tries to make sense of the situation she confronts she reflects on the understandings which have been implicit in her actions, her feelings which led to the adoption of this particular course of action and the way she structured her problem(s) initially. She surfaces all these, restructures them and embodies them in future action. Reflection-in-action therefore allows her to redesign what she is doing while she is doing it.

Reflection-on-action is rather different. It involves a 'cognitive post-mortem' (Greenwood 1993) where a practitioner reviews her actions to explore again the understandings she brought to them ('used' in them) in the light of her outcomes.

Greenwood (1993) views this Schonian model of reflective practice as essentially flawed in that it fails to recognize the importance of reflection-before-action. Reflection before action involves thinking through what one wants to do and how one intends to do it before one actually does it. To fail to reflect before action may lead to error; in addition, and related to this, it allows an important opportunity for feedback to go begging.

To Boud *et al.* (1985) reflection entails returning to the experience, attending to feelings and re-evaluating the experience. When an agent returns to the experience, she recaptures it in as much detail and richness as possible. She also attends to the feelings the experience excited; she enjoys the positive feelings it elicited and surfaces and deals with any negative feelings. She then re-evaluates the experience by relating what she has learned through this experience to her existing knowledge structures by mentally testing her new understandings in new contexts and by making the knowledge gained her own.

In response to criticism that this early model of reflective practice gave insufficient emphasis to preparation for experience, Boud (1992) revised this model to include preparation. Three things are focused on when preparing for experience. These are what the learners bring to the event and what they want from it (the personal), what constraints and opportunities the event provides (the context) and how learners can acquire what they need from the event (the learning strategies).

THE PURPOSES OF REFLECTIVE PRACTICE

It has already been noted, above, that Argyris & Schon (1974), Schon (1983, 1987) and Argyris *et al.* (1985) view the purpose of reflective practice to be the creation of a world that more faithfully reflects the values and beliefs of people in it, through the construction or revision of people's action theories.

It has also been noted that, according to these same scholars, this will entail double-loop learning because creating more desirable social realities requires structural as well as action redesign.

Other scholars' views accord with this; more precisely, reflective practice allows practitioners to:

- develop individual theories of nursing, to influence practice and generate nursing knowledge (Emden 1991, Reid 1993);
- advance theory at a conceptual level to lead to changes at professional, social and political levels (Emden 1991, Smyth 1992, 1993);

- facilitate integration of theory and practice (McCougherty 1991, Wong *et al.* 1995, Landeen *et al.* 1995);
- allow the correction of distortions and errors in beliefs related to discrete activities, and the values and norms which underpin them (Mezirow 1990, Saylor 1990);
- encourage an holistic, individualized and flexible approach to care (Chinn & Jacobs 1987);
- allow the identification, description and resolution of practical problems through deliberative rationalization (Powell 1989);
- enhance self-esteem through learning (Keegan 1988, Johns 1994, 1995);
- heighten the visibility of the therapeutic work of nurses (Johns 1994, 1995);
- enable the monitoring of increasing effectiveness over time (Johns 1995, Landeen *et al.* 1995);
- enable nurses to explore and come to understand the nature and boundaries of their own role and that of other health professionals (Johns 1994, 1995);
- lead to an understanding of the conditions under which practitioners practice and, in particular, the barriers that limit the practitioners' therapeutic potential (Emden 1991, Johns 1994, 1995);
- lead to an acceptance of professional responsibility (Johns 1994, 1995);
- allow a shift in the social control of work. Less direct, overt surveillance over work and much more indirect forms of control through, e.g. teamwork, partnerships, collaboration, etc. (Smyth 1992, 1993);
- provide opportunity to shift the power to determine what counts as knowledge from an elite, distant from the workplace, to practitioners in the workplace (Smyth 1992, 1993);
- allow the generation of a knowledge base that is more comprehensive because it is directly tuned into what practitioners know about practice (Smyth 1992, 1993);
- provide the opportunity for a rapid and progressive refocusing of work activity (Smyth 1992, 1993).

It was also noted previously that Argyris & Schon (1974), Schon (1983, 1987) and Argyris *et al.* (1985) believe that double-loop learning is essential to the creation of desirable social worlds since their creation hinges on the redesign of social structures as well as human action. The aim of double-loop learning, however, is not apparent in many of the frameworks for reflection currently being suggested. By 'framework' I mean either a series of questions which are designed to prompt nurses' reflection on action (e.g. Smyth 1993, Johns 1995) or guidelines to structure reflection on action (e.g. Smith & Russell 1991, Burrows 1995). Alsop (1995) terms these 'protocols'.

FRAMEWORKS FOR REFLECTION

Boud *et al.*'s (1985) and Boud's (1992) views on appropriate frameworks have already been mentioned. These relate more readily to school learning, in general; no distinction is made between levels of learner or relative expertise of learners. In nursing, the literature is rather different. For example, Smith & Russell (1991), Paterson (1994) and Burrows (1995) all discuss the value of reflective practice in pre-registration education and at least one of them (Burrows 1995) recognizes that many students will have little to reflect on. This may account for the apparent simplicity of their reflective frameworks ((see Figure 1 for Burrows (1995) framework and Figure 2 for that of Smith & Russell (1991)).

A much more elaborate framework, one based on Carper's (1978) ways of knowing nursing, has been used extensively in post-registration education by Johns (1994, 1995); this is represented in Figure 3, below.

Readers will notice immediately that these frameworks are almost exclusively single-loop orientated. The only possible exception might be those questions included under 'ethics' in Johns (1995) utilization of Carper's (1978) ways of knowing. Importantly, however, none of these frameworks contain questions which are deliberately double-loop orientated.

This seems interesting in (at least) two respects. Firstly, Johns (1995) recognizes that resolution of differences between actual and desirable practice may be difficult due to the social norms and barriers embedded both within the practitioner and the social environment. Indeed, he goes

- Background to the incident — time, place, location.
- Details of what happened — your account and/or accounts of others.
- What your concerns and thoughts were at the time.
- What you found most demanding about the incident.
- What you consider the incident is important to reflect upon.

Figure 1 Smith and Russell's (1991) framework for reflection on action based on Gordon D. and Benner P. 'Guidelines for recording critical incidents', in Benner P. (1984) *Novice to Expert*, Addison-Wesley, London, pp. 299–302).

- Describe events as you understood them.
- Describe your feelings about this event.
- What have you learned from this event?
- Given a similar situation in future, how would you behave?
- In what ways do the theories of psychology, sociology, biology, philosophy and nursing research underpin the situation you have witnessed?

Figure 2 Burrows' (1995) framework for reflection on action

- (a) Aesthetics
 - What was I trying to achieve?
 - Why did I respond as I did?
 - What were the consequences of that for the patient? Others? Myself?
 - How was this person (people) feeling?
 - How did I know this?
- (b) Personal
 - How did I feel in this situation?
 - What internal factors were influencing me?
- (c) Ethics
 - How did my actions match my beliefs?
 - What factors made me act in an incongruent way?
- (d) Empirics
 - What knowledge did or should have informed me?
- (e) Reflexivity
 - How does this connect with previous experiences?
 - Could I handle this better in similar situations?
 - What would be the consequences of alternative actions for the patient? Others? Myself?
 - How do I *now* feel about this experience?
 - Can I support myself and others better as a consequence?
 - Has this changed my ways of knowing?

Figure 3 John's (1995) framework for reflection on action

so far as to suggest that learning through reflection is an emancipatory activity. There is clearly some inconsistency between Johns' views relating to the purpose of reflection and the framework he uses to promote it. Given the terms of the framework as it currently stands, it is at least arguable that 'emancipation' could be construed to mean, 'liberation from ineffective (but discrete) action'.

Secondly, and even allowing that the scholars concerned (Smith & Russell 1991, Paterson 1994, Burrows 1995) may be responding to the relative lack of knowledge of pre-registration nursing students, single-loop learning has obvious limitations. Its focus on the means-end effectiveness of action could lead students to do the *wrong* things rightly (or correctly); this would be a sad irony indeed. What this clearly implies is that whenever reflective exercises are undertaken, irrespective of the expertise of the reflective agents, some examination of the underpinning values and norms, and the social relationships/structures that render them meaningful, must be undertaken. What this also implies is that single-loop learning represents technical rationality's colonization of reflective practice (Richardson 1995).

There is one framework (there may be others with which I am unfamiliar) that is explicitly double-loop orientated and that is Smyth's (1989) (see Figure 4, below).

Smyth is an Australian critical social scientist, like Kemmis and McTaggart (see below) who, although edu-

- Describe — what did I do?
 - Inform — what does this mean?
 - Confront — how did I come to be like this?
 - Reconstruct — how might I do things differently?
- or**
- What do my practices say about my assumptions, values and beliefs about (nursing)?
 - Where did these ideas come from?
 - What social practices are expressed in these ideas?
 - What is it that causes me to maintain my theories?
 - What views of power do they embody?
 - Whose interests seem to be served by my practices?
 - What is it that acts to constrain my views of what is possible in (nursing)?

Figure 4 Smyth's (1989) framework for reflection on action

cationalists, have been hugely influential in nursing and nursing education not only in Australia but in the United Kingdom, too. Critical social science (emancipatory social science) is irrevocably double-loop focused (Argyris *et al.* 1985, Greenwood 1994). I am entirely sympathetic with Smyth's (1989) mission; however, his framework could be less than helpful to nurses unfamiliar with critical social science and therefore less helpful than Johns (1995) framework irrespective of the latter's single-loop limitations.

One mechanism some nurses have adopted in western Sydney to address these limitations is to conflate John's reflective framework with aspects of Kemmis & McTaggart's (1988) more overtly double-loop or critical guidelines.

Of course, these guidelines were developed to promote critical action research (Carr & Kemmis 1986, Kemmis & McTaggart 1988); however, critical action research begins and ends in critical reflection on action.

Kemmis & McTaggart (1988) believe that human agents create and recreate their social worlds through:

the living, local and concrete process of constructing the reconstructing the language, activities and relationships which constitute and reconstitute the culture of the groups of which we are members. To change the culture of our groups (let alone of whole institutions or society more broadly) we must change ourselves, with others, through changing the substance, forms and patterns of *language, activities and social relationships* which characterize groups and interactions among their members.

(Kemmis & McTaggart 1988 p. 17. My emphasis)

Accordingly, nurses in Western Sydney who are attending a Clinical Development Unit leadership course are required, on a once-monthly basis, to document critical incidents they confront, using the parameters outlined in Carper's (1978) ways of knowing. In order to expose the language which typifies everyday utterance in their units, moreover, they are required to report verbal interactions

recognizing Spradley's (1980) verbatim principle. This principle enjoins the reporter to keep verbatim records, as far as this is possible.

In addition, and in order to capture the activities which characterize everyday nursing practice in their units, they are also expected to use concrete rather than abstract language. Concrete language is that which describes precisely what was seen, touched, smelled, etc. The incorporation of concrete language in their critical incident reports is consistent with Spradley's (1980) concrete principle.

When analysing their accounts, these nurses are required to identify the values and norms underpinning described practices and behaviours and the social relationships which render them meaningful. They are then expected to at least attempt to identify whose interests are being served by the continual expression of such norms and values and the continuation of such behaviours and social relationships. This latter expectation both incorporates and takes further some of the critical questions from Smyth's (1992, 1993) framework or protocol.

It is anticipated that the single-loop learning encouraged through the use of Carper's framework and the double-loop learning promoted through Kemmis and McTaggart's analytical guidelines will allow nurses to increase their understanding of and effectiveness in strategic, therapeutic action and the sociopolitical contexts in which it is embedded.

CONCLUSION

Single-loop learning is the result of instrumental means-end reflection on human action, whereas double-loop learning is the result of reflection on the norms, values and social relationships which underpin human action. Seriously reflective practice is a function of double-loop learning; the construction of more socially desirable nursing and health care realities is a function of structural as well as action redesign. A concentration on means-ends reflection may lead nursing students and nurse clinicians to the correct performance of inappropriate nursing actions.

A combination of Carper's (1978) ways of knowing nursing and Kemmis & McTaggart's (1988) critical guidelines used, respectively, to generate rich descriptions and critical analysis of critical incidents offers real possibilities for the promotion of nurses' double-loop learning and, thereby, the creation of more humane and more rational nursing realities.

References

- Alsop A. (1995) The professional portfolio — purpose, process and practice, Part 2: producing a portfolio from experiential learning. *British Journal of Occupational Therapy* **58**(8), 337–340.
- Argyris C. (1976) *Increasing Leadership Effectiveness*. John Wiley, New York.
- Argyris C. (1980) *Inner Contradictions of Rigorous Research*. Academic Press, New York.
- Argyris C. (1982) *Reasoning, Learning and Action: Individual and Organisational*. Jossey Bass, San Francisco.
- Argyris C. (1985) *Strategy, Change and Defensive Routines*. Pitman, Boston.
- Argyris C., Putman R. & Smith D.M. (1985) *Action Science*. Jossey Bass, San Francisco.
- Argyris C. & Schon D.A. (1974) *Theory in Practice: Increasing Professional Effectiveness*. Jossey Bass, San Francisco.
- Argyris C. & Schon D.A. (1978) *Organisational Learning*. Addison Wesley, Reading, Massachusetts.
- Boud D. (1992) In the midst of experience: developing a model to aid learners and facilitators. In *Striking a Balance* (Harris R. & Willis P. eds), Centre for Human Resource Studies, University of South Australia, SA Branch, AAACE, pp. 267–272.
- Boud D., Keogh R. & Walker D. (1985) Promoting reflection in learning: a model. In *Reflection: Turning Experience into Learning* (Boud D., Keogh R. & Walker D. eds), Kogan Page, London, pp. 38–40.
- Burrows D.E. (1995) The nurse teacher's role in the promotion of reflective practice. *Nurse Education Today* **15**(5), 346–350.
- Carper B. (1978) Fundamental ways of knowing in nursing. *Advances in Nursing Science* **1**(1), 13–23.
- Carr W. & Kemmis S. (1986) *Becoming Critical: Education, Knowledge and Action Research*. Deakin University Press, Geelong.
- Chinn P.L. & Jacobs M.K. (1987) *The emergence of nursing theory*. C.V. Mosby, St Louis.
- Emden C. (1991) Becoming a reflective practitioner. In *Towards a Discipline of Nursing* (Gray G. & Pratt R. eds), Churchill Livingstone, Melbourne, pp. 335–354.
- Greenwood J. (1993) Reflective practice: a critique of the work of Argyris and Schon. *Journal of Advanced Nursing* **19**, 1183–1187.
- Greenwood J. (1994) Action research and action researchers: some introductory considerations. *Contemporary Nurse* **3**(2), 84–92.
- Johns C. (1994) Nuances of reflection. *Journal of Clinical Nursing* **3**, 71–75.
- Johns C. (1995) Framing learning through reflection within Carper's fundamental ways of knowing in nursing. *Journal of Advanced Nursing* **22**, 226–234.
- Keegan L. (1988) Selfcare Part 1: the value of self reflection. *AORN Journal* **47**(3), 715, 717, 719.
- Kemmis S. & McTaggart R. (1988) *The Action Research Planner* 3rd edn. University Press, Geelong.
- Landeen J., Byrne C. & Brown B. (1995) Journal keeping as an educational strategy in teaching psychiatric nursing. *Journal of Advanced Nursing* **17**, 347–355.
- McCougherty D. (1991) The theory-practice gap in nurse education: its causes and possible solutions. Findings from an action research study. *Journal of Advanced Nursing* **16**, 1055–1061.
- Mezirow J. (1990) How critical reflection triggers transformative learning. In *Fostering Critical Reflection in Adulthood* (Mezirow J. & Associates eds), Jossey Bass, San Francisco, pp. 1–20.
- Paterson B.C. (1994) Developing and maintaining reflection in clinical journals. *Nurse Education Today* **15**, 211–220.

- Powell J.H. (1989) The reflective practitioner in nursing. *Journal of Advanced Nursing* **14**(10), 824–832.
- Reid B. (1993) But we're doing it already! Exploring a response to the concept of reflective practice in order to improve its facilitation. *Nurse Education Today* **13**, 305–109.
- Richardson R. (1995) Humpty-Dumpty: reflection and reflective nursing practice. *Journal of Advanced Nursing* **21**, 1044–1050.
- Saylor C.R. (1990) Reflection and professional education: art, science and competency. *Nurse Educator* **15**(2), 8–11.
- Schon D.A. (1983) *The Reflective Practitioner*. Basic Books, New York.
- Schon D.A. (1987) *Educating the Reflective Practitioner*. Jossey Bass, San Francisco.
- Smith A. & Russell J. (1991) Using critical incidents in nurse education. *Nurse Education Today* **11**(4), 284–291.
- Smyth J. (1989) Developing and sustaining critical reflection in teacher education. *Journal of Teacher Education* **40**(2), 2–9.
- Smyth J. (1992) Teachers' work and the politics of reflection. *American Education Research Journal* **29**(2), 267–300.
- Smyth J. (1993) Reflective Practice in Teacher Education and Other Professions. Key address to the Fifth National Practicum Conference, Macquarie University, Sydney, February.
- Spradley J. (1980) *Participant observation*. Holt, Rinehard & Winston, New York.
- Wong F.K.Y., Kember D., Chung L.Y.F. & Yan L. (1995) Assessing the level of student reflection from reflective journals. *Journal of Advanced Nursing* **22**, 48–57.