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Author(s)	Tan Kok Siang
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Reflective Learning in the Classroom

Tan Kok Siang

Introduction

Singapore is at the crossroads of a restructuring effort to meet the global demands of a knowledge-based economy. This includes restructuring our educational curriculum and refining our teaching methods to produce creative and entrepreneurial Singaporeans (Goh, 2002). Rapid changes in global trade and political scenes, fuelled by advances in information and communication technology, create the need for countries to compete in terms of their ability to spot or create opportunities. A workforce with these capabilities will help the country survive a keen economic competition. As educators, we have the responsibility to help our country create such a workforce, one with the habits of looking out for opportunities and learning from past experiences with an intention to improve. Our school curriculum needs to train our students to develop these skills, in particular the skills of establishing relationships and generating alternatives, which are also the main characteristics of reflective learning (Ellis, 2001; Fogarty, 1994; Sugerman *et al.*, 2000).

Reflective learning, as a habit of mind, can be developed through the conscious and consistent application of the skills of learning. In general, being reflective means looking back at our past learning experiences and making sense of things by relating these past experiences to our current and future learning needs. Adopting a reflective learning approach involves explicit training in generating alternative solutions to problem situations and establishing links among ideas. Be it a pre-learning reflective activity, an on-going reflection during a lesson, or a post-lesson reflection, teachers may like to consider adopting reflection as a classroom pedagogical approach. This article will discuss the nature of reflective learning and suggest how teachers can help students become reflective learners in the classroom.

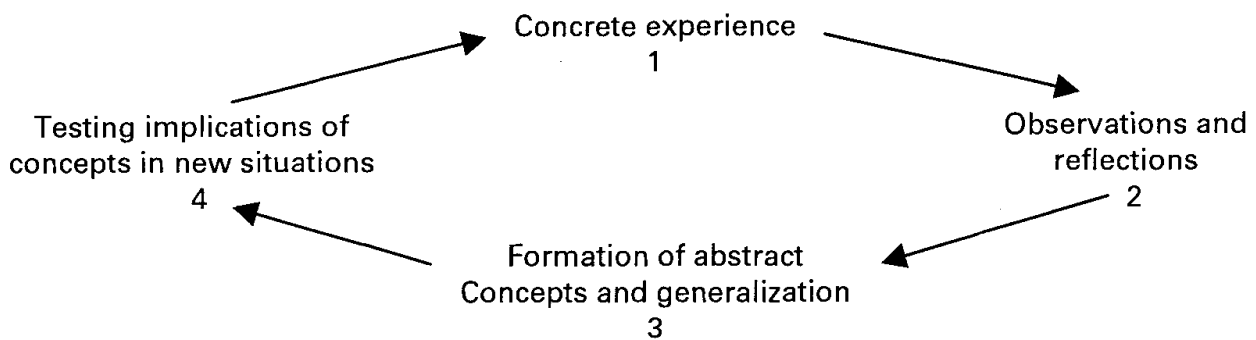


Fig. 1. The Experiential Learning Cycle (Kolb and Fry, 1975).

Review

Reflective Learning Defined

The idea of reflective learning is not new. In the 5th Century B.C., the Greek philosopher, Socrates, probably demonstrated reflective learning through his inquiry-based approach (Livingstone, 1938) but it was John Dewey who wrote explicitly about reflective thinking and how important reflection was to the development of the thinking person. In his book *How We Think*, Dewey (1933) describes reflective thought as the suspension of judgement and having an open mind. Reflection, he said, begins with observation “to take stock of the conditions” before “suggestions arise of possible courses of action” (pp.102–103). He advocated that educators teach students to question and examine in detail their own learning in order to make them critical reflective learners. Dewey further suggested that reflective thoughts involve “a look into the future” as well as the past experiences of the learner, and establishing a relationship “on a new basis” (p. 118).

In 1975, Kolb and Fry put forth the Experiential Learning Cycle as a model of learning in which experience becomes translated into concepts through a four-stage cycle (See Fig. 1). In other words, reflection is not just about the process of thinking but it also deals with how the learner’s learning experience shapes his or her thinking. Boud, Keogh, and Walker (1985) see reflection as an active cognitive exploration, a process where people “recapture their experience, think about it, mull it over and evaluate it” (p. 19), often leading to the discovery of new concepts or mastery of new skills. Through reflection learners gain a deeper ownership of the knowledge or skill acquired. Reflection also provides an interesting platform from which learners can observe their own

learning experiences and this can allow the generation of ideas which would otherwise have remained dormant.

Reflective Learning in Language Education and Adult Learning

Reflective learning has been widely adopted in language education and adult learning programmes. Since learning a language is often most effectively achieved through experiential immersion in a social environment where that language is primarily used, reflection is a natural pedagogic strategy for teachers in classrooms where there has been a shift to more student-centred learning approaches (Ho, 1997; Main, 1985). Through activities, like report writing, keeping a learning journal or portfolio, and imaginative story telling (Courtney and Abodeeb, 1999; Ho, 1997; McDrury and Alterio, 2001), learners can reflect on past language-using experiences, and in this way pick up the finer points of using a language (Tarvin and Al-Arishi, 1991).

In adult learning, which often occurs in the workplace, learning is commonly associated with doing. Marsick *et al.* (1992) explain that adults do not learn just by job simulation but they learn most effectively by being involved in the actual doing of the job, as in solving a real workplace problem. Schon (1983), author of the book, *The Reflective Practitioner*, proposed several kinds of reflective learning involving adults. Two of these are: “*reflection-in-action*” and “*reflection-on-action*”. Reflection-in-action literally means the learner reflects in the midst of the learning action. It is an in-process quality check during learning, making decisions there and then, and adjusting to the changing demands of the situation. Reflection-on-action, on the other hand, is reflection after the learning event has come to a close. It is the review of the experience with the hope of surfacing ideas or opinions that would help to improve future learning. Schon’s theories on reflective learning are often cited and applied in studies in professional fields like management and nursing (Atkins and Murphy; 1993; Carroll *et al.*; 2001; Raelin, 2001; Reynolds, 1999).

The ideas and experiences from Language Education and Adult Learning may be applied to young and teenage learners in schools. With an understanding of how people reflect, teachers can create a reflective learning classroom environment by using some of the strategies language teachers and adult trainers use. In such a learning environment, students can be developed into habitual reflective learners.

Reflective Learning in the Classroom

A number of educators and trainers claim the benefits and strengths of a reflective learning school programme. Bigge and Shermis (1999) argue that “if the central goal of education is to foster intelligence, reflective teaching should be the basic approach used by teachers everywhere” (p. 270), while Ellis (2001) claims that one of the reasons why schools may fail to produce independent learners is the lack of opportunities for students to reflect. Others assert the need for schools to develop explicit strategies to allow for reflection and metacognitive thinking (Fogarty, 1994; Langrehr, 1990; Wilson and Jan, 1993).

In order to build a framework for a reflective classroom practice, Whitaker (1995) says that teachers need first to provide opportunities for children to discover their own learning route. This means teachers need to be able to “diagnose” the learning needs of the students and identify the expectations of the curriculum in order to “facilitate” the appropriate experiential learning processes in the classroom. This may seem an onerous task for the teacher but there are benefits to be reaped in the long run.

A number of classroom strategies have been designed to develop reflective learning habits (Ellis, 2001; Fogarty, 1994; Sugerman *et al.* 2000). To start off, it may be useful for teachers to consider the two core skills in most reflective strategies: *establishing relationships* and *generating alternatives* (or possibilities).

Relating is a powerful skill, as it involves many other skills, including recalling prior knowledge, identifying what is known and what the learner wants to know, and then making the connection between them. Seeing meaning in the learning will motivate learners to pursue further, thus generating a variety of ideas.

Through co-operative group work and strategies like the **KWL procedure** (“what I Know, Want to know, and what I have Learnt”), students can be led to habitually relate their learning needs to their prior knowledge. Fogarty (1994) has a list of metacognitive strategies for concept development that involve students in planning for their learning. An example is the writing of **stem statements** at the start of a lesson. The teacher can write the stem on the whiteboard or overhead transparency and students are asked to “react to it by writing in their notebooks or journals” (Fogarty, 1994, p. 8). Hence, in a Biology lesson, for example, the teacher may write the stem statement: “The cell is made up of” on the whiteboard and students would then have to complete the sentence based on their understanding of the concept which the teacher plans to teach. Other concept

development reflective strategies include monitoring strategies like **thinking aloud** (pair work) and **instant replay** (audio or video recordings) with feedback from peers. Audio and video replays are used in skill-based lessons, as in perfecting a handicraft skill or dance movement, or learning a song, or in athletics training. Replays can also be used for language learning and in science laboratory practical lessons. Reviewing the mistakes made with the learners may generate more ideas for the learner to improve.

Reflective learning strategies in developing problem-solving skills require a lot of students' initiatives. An example is the use of the "**Clear and Unclear Windows**" strategy where students identify what they are clear about and what they are not (Ellis, 2001). It is used as a kind of student's self-report. The strategy helps the students to define their knowledge or ability boundary, and the teacher can use this information to craft problems or design tasks that will lead the students into the lesson more comfortably. As an end-of-lesson strategy, it becomes a self-evaluation exercise with the students taking the responsibility to gauge their level of achievement. Again, the information gathered will help the teacher to further diagnose their learning needs.

Another reflective strategy often used in problem-solving lessons is "**Question Authoring**", which can serve "as an aid to comprehension" to a problem statement or situation (Ellis, 2001, p. 98). Instead of the *teacher* presenting the problem and the related questions about the situation, the *students* are asked to write down questions about the situation instead. For example, in a story comprehension exercise a student might write the question, "Why did John claim himself of be the murderer when he was innocent?". Or, when discussing a critical national issue, the question, "Why can't we use NEWater technology on seawater instead of wastewater?" may be authored by the students themselves. These self-crafted questions help the students relate their personal experiences or ideas with the problems they are dealing with. They may also serve as seeds to generating possible answers or scenarios to the problem being discussed. Habitual questioning, enhanced by the teacher's insistence that the students write the questions down, will help the students develop effective problem-solving skills.

Discussion

These classroom strategies can be applicable to most subjects in the school curriculum. All it takes for teachers is to provide the opportunities for their

students to experience the learning and to give them sufficient time to reflect as they learn. It may be easier said than done, but as in all reflective learning situations, an initial trigger to reflection must exist before reflection comes about. That trigger to entrenching a reflective learning environment in the classroom has got to be the reflective pedagogy employed by the teacher.

The greatest problem in creating a reflective learning classroom is not about formulating learning procedures, nor about structuring reflective learning programmes and conducting reflective assessments. It is about changing the mindset of policy makers, school administrators and most of all, the students' parents. While teacher-led didactic learning classrooms have undeniably produced top-notch graduates who can follow instructions closely and effectively, it may be difficult to clearly show that reflective learning classrooms do indeed produce independent learners with the ability to make informed choices and to create innovative solutions to problems. However, there are reports on classroom reflective practices that show how students tend to be more receptive to learning and to be able to make connections and articulate their understanding of the lessons in different ways (McDrury and Alterio, 2001; Smith, 1997; Smith, 1999; Weasmer and Woods, 2000; Wilson and Jan, 1993).

Conclusion

Reflection in learning takes time and effort, and the reflective classroom has yet to be clearly accountable to a society serious about academic achievement on paper. It is also difficult to claim that Reflective Learning is a new pedagogical approach, since much of what teachers are already doing in the classroom involve some degree of reflection — for example in journal writing, questioning and role-playing. However, it is probably true to say that explicit reflection is seldom used as a conscious learning strategy in the classroom. Teacher-led drilling has helped students to perform effectively in national public examinations; in the same way, teacher-facilitated reflective learning can help students enhance and deepen their learning, both now and on leaving school. If skilfully incorporated as a pedagogical approach in the classroom, reflective learning can help build and sustain a lifelong learning culture in our present and future generations of citizens.

Implications for the Classroom Teacher

1. Students' responses during lesson or from evaluative exercises or tests can be used as reflective learning resources. For example, the teacher can encourage students to reflect on their answers in written tests and surface the reasons for their arriving at the correct or wrong answers.
2. Students need time to reflect. Teachers need to re-schedule their lesson plan to allow for reflection time. This can involve a few minutes at the opening of the lesson for the students to jot down what they know about the topic to be taught that day, or at the end of the lesson, on what they have learnt and how they can relate the knowledge or skill to their daily life.
3. Established teaching strategies like journal writing, co-operative learning and KWL should be re-visited as these strategies are supportive of a reflective learning environment.
4. The use of technology, like the digital video or web camera, to record and replay skill-based lessons, for example in a science laboratory practical or an athletic training session, may also facilitate a reflective learning process.

References

- Atkins, S. & Murphy, K. (1993). "Reflection: a review of the literature." *Journal of Advanced Nursing*, **18**, 1188–1192.
- Bigge & Shermis, (1999). *Learning Theories for Teachers*. New York: Longman.
- Boud, D., Keogh, R. & Walker, D. (ed.) (1985). *Reflection, turning experience into learning*. London: Kogan Page.
- Carroll, M., Curtis, L., Higgins, A., Nicholl, H., Redmond, R. & Timmims, F. (2001). "Is there a place for reflective practice in the nursing curriculum?" *Nurse Education in Practice*, **2**, 13–20.
- Courtney, A. M. & Abodeeb, T. L. (1999). "Diagnostic-Reflective Portfolios." *Reading Teacher*, **52**(7), 708–14.
- Dewey, J. (1933). *How We Think. A Restatement of the Relation of Reflective Thinking to the Educative Process*. Massachusetts: Heath & Company.

- Ellis, A. K. (2001). *Teaching, Learning, and Assessment Together. The Reflective Classroom*. New York: Eye on Education, Inc.
- Fogarty, R. (1994). *Teach for Metacognitive Reflection*. Illinois: Skylight Professional Development.
- Goh, C.T. (2002). *Remaking Singapore — Changing Mindsets*. National Day Rally Address By Prime Minister Goh Chok Tong At The University Cultural Centre, NUS, On Sunday, 18 August 2002, at 8.00 p.m.
- Ho, B. (1997). "Reactions of Students to Reflective Learning in a Technical Report—Writing Course." *English for Specific Purposes*, 16(3), 211–27.
- Kolb, D. A. & Fry, R. (1975). *Towards an applied theory of experiential learning*, in Cooper, C. L. (ed.), *Theories of group processes*. (pp. 33–58.) London: John Wiley.
- Langrehr, J. (1990). *Teach thinking strategies*. Melbourne: Longman Cheshire.
- Livingstone, R. W. (1938). *Plato. Portrait of Socrates, being the Apology, Crito, & Phaedo of Plato in an English translation, with introductions and notes*. Oxford: Clarendon press.
- Main, A. (1985). *Reflection and the development of learning skills*, in D. Boud, R. Keogh, & D. Walker (ed.), *Reflection, turning experience into learning*. (pp. 91–99) London: Kogan Page.
- Marsick, V. J., Cederholm, L., Turner, E. & Pearson, T. (1992). "Action-Reflection Learning." *Training and Development*, 46(8), 63–66.
- McDrury, J. & Alterio, M. (2001). "Achieving Reflective Learning Using Storytelling Pathways." *Innovations in Education and Training International*, 38(1), 63–73.
- Raelin, J. A. (2001). "Public Reflection as the Basis of Learning." *Management Learning*, 32(1), 11–30.
- Reynolds, M. (1999). "Critical Reflection and Management Education: Rehabilitating Less Hierarchical Approaches." *Journal of Management Education*; 23(5), 537–53.
- Schon, A. D. (1983). *The Reflective Practitioner*. New York: Basic Books, Inc., Publishers.
- Smith, C. R. (1997). "Using Active Reflection as a Learning Process." *Journal of Adolescent & Adult Literacy*, 41(1), 62–63.
- Smith, V. (1999). "Everyone's a Criminal? Reflections on Critical Reading in the Primary Classroom." *English in Education*, 33(3), 54–61.
- Sugerman, D. A., Doherty, K. L., Garvey, D. E. & Gass, M. A. (2000). *Reflective Learning. Theory and Practice*. Dubuque, Iowa: Kendall/Hunt Publishing Co.

- Tarvin, W. & Al-Arishi, A. (1991). "Rethinking communicative language teaching: Reflection and the EFL classroom." *TESOL Quarterly*, 25(1), 9–27.
- Weasmer, J. & Woods, A. M. (2000). "Shifting Classroom Ownership to Students." *Middle School Journal*, 32(2), 15–20.
- Whitaker, P. (1995). *Managing to Learn. Aspects of Reflective and Experiential Learning in Schools*. London: Casell.
- Wilson, J. & Jan, L. W. (1993). *Thinking for Themselves: Developing Strategies for Reflective Learning*. Australia: Eleanor Curtain Publishing.