The Role of Leadership in Action Research

by Thomas G. Ryan

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Introduction

The image of a leader is often one of standing alone or above a number of followers. I rejected this traditional image and preferred to stand with others as I led fellow educators through a recent practical action research study. From the onset of our practical action research project I felt a deep sense of responsibility. I was after all asking people to follow an agenda that was largely crafted by me. I wanted to lead and I believed I could, however these were only departure points on the path to leadership which served to usher me into new territory. This was my first action research project. I had taken graduate courses, read journals, textbooks and attended regional workshops to prepare for this experience. The Secondary Science teachers who volunteered to be part of this project had done so to improve their assessment praxes and at the same time realise some degree of professional development as required by their school administration.

Departure

As we began our study the newness of each conversation and the resultant energy made leading somewhat confusing and invisible. Yet, the task of leading was something I could feel every time I looked into a group memberís face. At times the mental replay of this act of looking was a haunting memory and other times it was a source of inspiration. To mediate these concurrent feelings I was direct and respectful in the face of any communications. On November 19th, 1997, I had to deal with the issue of conflict which caused me to write in my journal:

Today I spoke to the group about conflict between people and each one suggested that some things are dealt with and some are not. No one would talk about the other but we had a couple of good laughs about staff meetings and how some staff take up all the time with complaints, and as a group it is hard to get consensus no matter how good the leader is as a negotiator. It reminded me of some memorable staff meetings Iíve been part of. (p. 22)

As we pushed through our study I remember feeling annoyed by the fact that our schedule tied me down somewhat as a leader. I was becoming weary at times with the leadership workload. What kept me going was the enthusiasm of the participants who seemed to welcome the adult conversations we had.

My goal all along as a leader was to illuminate assessment praxes in a non-evaluative mode of collaborative, participatory action research (McTaggart, 1997). Each of the four participants was

joined by a thematic concern to inform and improve assessment. Collectively, these teachers and I chose science as the context in order to examine our current assessment practices.

Problem Rationale

We attempted to answer two sets of research questions. The first set involves the nature of assessment, as I asked, what was the current state of assessment practice in secondary science? What were participants' initial understandings of assessment and actual practices at the onset of this research? To what extent did these initial understandings and actual practices change due to the illumination of assessment praxes through action research involvement? The second set of research questions, concerning the nature of action research, was addressed by asking what did participants learn about action research? What other learning and professional gains were realised during this study? Lastly, what did I learn about action research and assessment through my involvement in this study?

Roles

A leader, in the context of researching, needs to establish trust (Pedretti, 1996) which often means being predictable over time. For me I knew I had many assets that would become apparent in the days and months that followed. I was a qualified, hard worker who was enthusiastic as I offered praise in an open manner. In doing so I built confidence and motivated others. Teachers were be able to connect, exchange and grow together professionally (Zuber-Skerritt, 1996). Our work was systematic, informing, and brought about change through reflection and discussion. I saw my efforts as a means to release human potential, balance needs, defend values and instil a sense of initiative, which would become my responsibility to monitor and nurture (Rudduck, 1991). As a leader and coach I had to be in touch with my own and other participants changing understandings (Schon, 1987). This task was more accessible once our group, under my leadership, began to communicate aloud.

Leadership Intentions

I believe, like others, that action research in general " . . . is one way of restoring and enhancing professional confidence. ì Action research provides teachers with a more appropriate alternative to traditional research designs, one that is, in aspiration at least, emancipatory " (Hopkins, 1993, p. 56). In order to ensure that we achieved these outcomes (professional development, enhanced confidence, increased assessment literacy) our action research effort followed these principles: It did not interfere with the regular routines, it was efficient, it demonstrated commitment, it was ethical, and it was collaborative (we had a shared vision) (Hopkins 1993). Further, our research study " combines substantive acts with a research procedure; it is action disciplined by enquiry, a personal attempt at understanding while engaged in a process of improvement and reform " (Hopkins, 1993, p. 44). Throughout the project, I was active in my " . . . study of a social situation with a view to improving the quality of the action within it " (Elliott, 1991, p. 69). I was interested in my own interactions as well as other participants as we moved towards new understandings. I recorded my thoughts October 15th (1997),

I find that meeting so many new people has caused me to lose sight of why I'm here at the school. If I didn't have a plan and schedule I believe much of the time would slip by quickly and I would fail to get it documented. It makes me anxious and uncomfortable to know that I have to produce something noteworthy. I reassure myself that it will be interesting without me having to do anything more than record and collect evidence. Still, I get this nagging feeling that I'm not doing it right so, I reread a few texts and I calm down ready for tomorrow's interview. (p. 10)

Another trait of our action research paradigm included systematic inquiry, which was collective (community-based), collaborative, self-reflective, critical and undertaken by the participants of the inquiry (Kemmis & McTaggart, 1988a; McCutcheon & Jung, 1990). Action research is, after all, an exercise in participation, as noted previously, which often leads to elucidation, clarification, further communications and commitments (Carr, 1995; Elliott, 1991). The implicit theoretical perspectives of teachers' assessment praxes emerge through discussions and observations, which are often dialectic. These means of communication produce data which are then scrutinised, challenged and refined through recursive group activities (Hopkins, 1993). However, it may be a lengthy and piecemeal process, in which group members (the community) may fight tenaciously for the views they hold because they are embedded within a wider set of values that they hold dear. These value positions are challenged and, through these exchanges, new positions may be assumed which sustain a sense of belonging in the group.

So, " collaborative forms can be collaborations between teachers and outsiders, such as university researchers . . . , or they can be collaborations among teachers " (Feldman, 1999, p. 125). This study included only teachers, including myself as the lead-teacher, and it was directed towards improvement. Indeed, this inquiry was undertaken to improve the effectiveness of teacher assessment praxes. Therefore, participants were somewhat dependent upon the leader, as is often the case in collaborative undertakings. However, because we focused on each practitioner's understanding and professional development in the area of assessment, my presence as leader was not essential every time we met. My role was Socratic (Pedretti, 1994) and I aimed to encourage practical deliberation and self-reflection on the part of participants, which constitutes practical action research. Our agenda was focused on assessment, yet there was a great deal of breadth to our reflections and discussions. This breadth was viewed as desirable and was enthusiastically nurtured to help clarify the praxis (reflection-action) of this action research effort.

Leading Participants

Initially, I met with the school Principal in early September of 1997 and discussed the proposal of this participatory action research study. Fortuitously, the proposal met the school's professional development needs, as noted earlier. Thus, this study was encouraged by the Board and the school administration. Similarly the teachers, when contacted, needed little convincing of the value of such an enterprise, especially when they realised they would be equal participants in their own professional development experience.

The four secondary science teachers were approached early in the first month of the school year and a brief description of the research was presented. Within minutes, each of the four secondary science teachers agreed, and even seemed relieved, to become a participant in this action

research project on assessment. Participants ranged in teaching experience from 1 to 12 years. Permission forms were presented at a second meeting and were read and signed by all participants and the Principal of the school. A meeting schedule was developed collectively that took into consideration participant timetables, school events and proposed a course of action from September of 1997 until April of 1998. A few changes were made to this schedule throughout its application, principally because of the province-wide strike that cancelled two meeting dates. As well, two interviews were missed due to severe winter weather, and the odd absence occurred for other reasons. Yet, in spite of these few obstacles, a great deal of data were collected via participant journals, interviews, classroom visits, document collection and group discussions.

Leadership Concerns: Participants as Cases

Action research, by supporting the collection of data which is often quite removed from " restrictive conventional rules of the research game " (Guba, 1996, p. x), is vulnerable to criticism of its validity and reliability, objectivity and generalizability. Nonetheless, action research uses acceptable qualitative means to gather data that eventually result in evidence. The data is built upon mental constructions and interpretations (Guba, 1996). The question, however, is omnipresent: To what extent is the data, evidence and means of inquiry accurate, truthful and acceptable?

In order to instil accuracy and fairness, a systematic approach and careful consideration of individual assessment concerns and priorities were used to ensure that each participant's assessment perspectives were given due consideration. Hence, each participant became a case study. " Case study is not a method as is sometimes assumed, but a focus of the study, whether that focus is a single classroom, institution or system. The essential feature is the case " (Simons, 1989, p. 116). Since there were four teachers, there were four case studies. The fifth case involved myself, cast in the role of leader, action researcher, participant, facilitator, collaborator, supporter, associate and consultant. Each case became a body of knowledge well documented and, when possible, triangulated through other sources of information.

Data were recorded in participant journals and classroom observations, and all discussions were tape-recorded. Subsequently, data were interpreted and studied by all participants. Editing was completed and a final draft was fashioned into accounts. It is these accounts, viewed through different lenses that were subjected to interpretative theory. As well, reflection was used to crystallise interpretation using a framework best understood as interpretive questioning (Stringer, 1996). This included such probes as why, what, how, who, where and when. This systematic process helped each participant achieve an illuminated and relatively coherent perspective on assessment. Together, all participants shared assessment praxes in a manner they had not experienced before. It was this 'self' building that aided the professional development process.

Tools and Techniques of an Action Research Leader

The activities in this study can best be understood by recalling that each participant looked, thought and acted recursively throughout the process of this action research study to illuminate assessment praxes. Stringer (1996) further explains,

The 'look, think, act' routine is but one of a number of ways in which action research is envisaged. Kemmis and McTaggart (1988), for instance, present action research in terms of a spiral of activity: plan, act, observe, and reflect. Different formulations of action research reflect the diverse ways in which the same set of activities may be described, even though the processes they delineate are very similar. There are, after all, many ways of cutting a cake. (p. 16)

These phases (looking, thinking, acting) within the routine were augmented by the use of a tape-recorder and journals which further captured assessment observations, thoughts and actions, and ensured satisfactory triangulation. It is standard practice to tape-record sessions to produce transcripts that may be further examined by each participant. This practice enhances and promotes reflection. It is through these transcripts and journal entries that participants enter into dialogue around what may be opposing value positions. These dialectic events are expected and encouraged, and the tone of these discussions is sincere, honest and centred on mutual respect for one-another. Thus, participants learn by communicating and personal reflection (Newman, 1991). As learning and transformation take place, 'spiralling' (Carr & Kemmis, 1986) (looking, acting, thinking recursively), a feature of action research, can produce a great deal of data. This data are looked at, acted upon and often leads to change (Stinger, 1996). The cycle of thinking, looking and acting is repeated recursively.

Journals were used to achieve two outcomes: first, to communicate and document thoughts about action research; and second, to preserve the thoughts of teachers reflecting on their educational assessment practices. In addition, a third aspect involved my reflections on the process and results. It can be asserted that the action research cycle was going on at two levels. First, teacher-participants looking, thinking and examining their assessment praxes. Second, my own recursive examination of leadership activities related to my action research project. The common ground was the context, relating to the context of all participants, and the focus, assessment. The first level of action research involved the teachers in looking at their current assessment praxes, thinking about the rationale for these actions and for alternatives generated in-group discussion, and examining their effect in the classroom. At the second level of action research, ' looking ' involved the gathering of data which included contextual descriptions; ' thinking ' included exploring and analysing what was happening in the research site(s); 'acting ' comprised the thesis (report), its implementation (usage) and evaluation (recommendations).

Analysis of data collected through reflection was in itself a process. The reflection process, carried out by all participants, was the analysis, which led to theorising and the transformation of understandings of assessment praxes. (Stinger, 1996) Within the transcripts and journal notes, evidence that supported changes in assessment thoughts and practice was identified and described. Winter (1996) explains that " action research is seen as a way of investigating professional experience which links practice and the analysis of practice into a single, continuously developing sequence" (p. 13). Thus, data collection and analysis were not separate acts; they occurred simultaneously. Some early action researchers (Corey, 1949, Schon 1987) have treated the act of data collection and analysis as separate entities. Barnsley and Ellis (1987) suggest an acceptable contrast in method as they explain: "data analysis can begin while the research is in progress as well as after the data has been gathered " (Part V - p. 24).

As the data were mounting, I began to skim the collection and commence the task of reflecting on what I had sensed. Further reflection brought to mind key concepts and words that supported these concepts. I use the word 'concept' to describe something that, to my mind, is unambiguous. The key concepts were used to assemble a matrix. I believed that the conception of data analysis articulated by Sagor (1992) suited me best:

Data analysis can be most simply described as a process of sifting, sorting, discarding, and cataloguing in an attempt to answer two basic questions: What are the important themes in this data ? and (2) how much data support each of these themes ? (p. 48)

My assessment themes became key terms and were used on the horizontal axis of a matrix I designed. These key terms included: What, Why, Who, How, Time, Isolation and Views. The 'What' meant: What do you assess? The 'Why' meant: Why do you assess? The 'Who' meant: Who completes or develops the assessment? The 'How' meant: How do you assess? The 'Time' indicated that some mention or inference was made to time as a constraining feature of assessment praxes. 'Isolation' indicated that some mention or inference was made to teacher isolation as a feature of assessment praxes. The 'Views' term indicated that a view had been expressed repeatedly and strongly.

On the vertical axis, I had sources of data (group discussion, one-to-one discussion, journal, classroom visit, informal communications, and documentation). Each key concept was given a colour code. As the data were skimmed, sifted, sorted and a linkage to the key concept was found, the data were highlighted in the corresponding colour. As well, in each box of the matrix, co-ordinates were noted, such as the date and page number. So, if I were looking for data concerning the 'what' (key concept - horizontal axis) of assessment praxes, I could go down the column to locate the source (group, 1:1, journal, document, visitation, informal note). Located in a specific matrix box would be the source's location by date and page number, thus enabling rapid location and recovery of the information.

Findings: A Leader's View

Generally, it was discovered that each participant's current state of assessment praxis was quite traditional (form). It was teacher controlled and content driven (subject-matter based), and utilised fixed testing events (unit quiz, unit lab, mid-term, final exam). When teaching, each participant acted as a transmitter of specialised information. The learner was encouraged to acquire a fixed body of knowledge in the same form as the teacher delivered it. Each teacher used a narrow source of materials (textbook, lab book) and followed a predetermined course of study (using dated guidelines) in order to realise exit criteria (final percentages). Exit criteria were realised primarily through paper and pencil modes of assessment with little actual performance based assessments. Participants viewed and addressed assessment largely as an afterthought. The planning (content coverage of text) and teaching aspects were seen as instruction issues that preceded any concern for assessment. It was strictly plan, teach and assess, with little attempt to plan varied assessments ahead of the lesson. The domain assessed was primarily knowledge recall via short answer, fill-ins, true/false and multiple choice tasks, as is typical in most content-based programs. Participants used assessment as a consequential process

that could either motivate students to behave or cause students to work more intensely to achieve desired expectations.

Other reasons for assessment (function) included the need to monitor student progress (counselling), as detailed in Pat's journal of January 11th, 1998.

Some students say they understand but I think they are just saying this to protect their feelings and I know by their marks how much they understand. If someone is slipping I meet with him or her after school and talk about how they can improve. This is something you have to do with no other students around. Sometimes it works and other times I just don't know how to help them. (p. 43)

Also assessment helps to ascertain learning needs (Special Education), as Bob's journal entry suggests:

I have an OAC student, who is failing, not because he isn't a good student, it's because of his abilities in math. If you are weak in math it will show up in physics class at some point. He is getting extra help from a peer now. I set this up and he should be OK. (February 4th, 1998, p. 22)

Assessment was used for grouping and/or selection (Honour Roll, extra study group). Often participants, in isolation, used random assessment as evaluative tools, to inform curricular change. Jan used assessment to check for understanding and indirectly to check to see if her methods were achieving the desired outcomes.
I like pencil and paper tests. For me, anyway, I feel it is the best way I can get a handle on whether the students understood the material or not. I like the factual tests, I guess, but yet I try to instil some practical applications so that it is not just rote memory. That way it will simply prove that they have truly understood the material and not just memorised words on a piece of paper. (October 8th, 1997, p.1)

Assessment provided feedback for students, parents and the educational system (reports cards). It was argued that assessment prepared students for life (ability to accept criticism) after High School. For instance, Bob was preparing students for University by assessing in the same manner as a University:

Bob: Exactly, so I mean, I know in University there's a weekly quiz, lab, assignments and they're going to have tests of the format that I'm using. So, I mean, I don't want to stray too much because I want to give them as good a preparation as possible. (October 15th, 1997, p. 4)

Assessment, it was claimed, helped maintain standards and assisted in making comparative analyses of students and classes. As noted in the case studies, assessment was largely traditional at the onset of the action research, due to a lack of time to do otherwise, isolation and/or the deliberate pursuit of individualism (self-reliance). Reasons for this conservatism could also be found in the low levels of participant assessment literacy (awareness of current forms/usage) and professional development at either the preservice or inservice stages.

What to Assess?

Bob, the Science Department Head, spoke to this issue many times. On October 8th, 1997, the following conversation took place:

Bob: We all have assessment schemes that are dictated by the Ministry of Education from 1988. There is a chart that each teacher in the science department would have and it gives you a range of where your assessment tools have to fit. So you may have a responsibility range of 0-5 percent, an exam range of 30-40 percent, and a test range of 30 to 40 percent, you know, as well, something like that.

T.R.: Do you follow 1988 Ministry guidelines?

Bob: Yes, I'm in that bracket somewhere in my range. I may be at a maximum in one range and minimum in the other, but I'm within the ranges and try to make sure everyone in the department is in those guidelines. (p. 3)

In the practices observed in this study, any activity-based experiences were infrequent labs that were simplified by teachers and easily accomplished by students via the handing in of a written report. There was little time for teacher demonstrations and usually only one lab in each unit of study.

Other concerns were also voiced in our study. For instance Pat explained:

I think they have a lot of work right now and they're not used to it. Actually, I think they are good students, but they're just a little frustrated right now. They have so much work to do, because there's a big difference between grade 9 and 10. They don't have the work habits. (October 15, 1997, p. 2)

Another problem that participants voiced was a concern about the breadth of the course versus the allotted time each semester. Pat, a first year teacher, addressed the issue of time in her journal (October 28th, 1997):

As a new teacher I am expected to coach. I am expected to get involved with the students and prepare three courses (two, 9 biology, and a 11 biology) per day. I mark the work, do counselling and there is too much theory to fit in so I'm going to skim a few parts and try to cover everything to some extent. No wonder we are going to strike. (p. 14)

Overload caused labs to became infrequent. Labs required more preparation and completion time, and not less. Participants also suggested that reading comprehension skills, problem-solving abilities, critical thinking skills and motivational problems were obstacles in the planning of more labs. A once-a- year event, the Science Olympics, allowed participants to assess higher-order thinking skills and consider both the capacities of students to engage successfully in a complex process and develop a product.

Success via Action Research Leadership

The apparent 'success' of this study can be attributed to three features: a dedicated group of participants who were willing to follow the leadership provided, a supportive Board of Education, and an encouraging school administration. This shared support of stakeholders allowed me to lead from within. Indeed, " a shared inquiry could take advantage of different strengths brought by novices, experienced teachers, and teacher educators, and create opportunities to work toward common ends . . ." (Rosaen and Schram, 1997, p. 277). Our inquiry brought together a first year teacher, three experienced teachers and a veteran leader (myself). Our perspectives were different, as were our experiences. The contrasts seemed to produce, support and nurture new insights. For instance having a first year teacher in our group seemed to enrich our experience. To have a person somewhat unaffected and new to the profession question the theory and practice of secondary science education in the midst of experienced teachers creates a powerful stimulus. They often ask those very penetrating naive questions that make the rest of us sit-up and say "Yes, why do we do that?" In other words, what has become familiar to others is examined more carefully because of their presence. Our construction of new insights was really an outgrowth of the heterogeneous group. This growth was encouraged first by the Board's actions to permit this study and then welcomed via my presentation at a science curriculum council at the Board Office. Similarly, at the school level, I was permitted entrance and each participant was then supported via acknowledgement at forthcoming staff meetings.

Action research is well placed as a teacher-as-researcher mode of inquiry that can produce the needed responses, insights and claims to contrast with other positions such as the government's. Indeed, these action research insights allow us to put forward a perspective that is, at times, very different from the government's presentation.

Implications of this Study

This study has, to some extent, shown that secondary science teachers can enter into action research commitments. These commitments led to limited improvement and growth within resultant modes of assessment praxis. Participants have begun to understand how to act, reflect and revise, all of which are essential to revitalise practice. Critical reflection, a centrepiece of action research, is a useful tool for future inquiries involving individuals or groups of educators. By participating in action research, learning occurs, improvement is cultivated and professionalism is enhanced. This study has demonstrated that it is possible to supportive and lead action research participants as they develop professionally.

Future Directions: Leadership Tasks and the Role of Action Research

Action research is truly a teacher-researcher friendly mode of inquiry that can be widely used in preservice teacher education and inservice professional development efforts. Educational leaders such as Hargreaves and Fullan (1998), Hodson (1994), and Pedretti (1994,1996) have pointed to the many benefits of action research as a means of improving practice. It is a means to examine and self-monitor. By entering into an action research commitment, teachers can build a perspective with others and provide insight that is validated by participants. For example, this research experience taught participants that they can find common meeting times to discuss

theory and practice in spite of reduced preparation time, busy schedules and increased workload. In doing so, participants support and nurture one another professionally, while improving their own praxis. Issues related to individualism, autocracy, and isolation can be introduced, reflected upon and dealt with in this forum.

Admittedly, teachers can always improve since teaching is something that is never mastered. It is intrinsically challenging each day. Educational questions and educational contexts are too complex, uncertain and dynamic to be easily or finally answered. Indeed, one of the ideological commitments of the action researcher is that nothing is ever settled/answered/solved. As a next step it seems natural to suggest that participants meet with other teachers to act, reflect and revise in order to improve their situations professionally and personally. Perhaps teacher performance appraisals (which are mandated) can be supported and augmented by these processes. The action research process provides a personal approach to both self and peer-appraisals in order to inform administration and other stakeholders about issues such as accountability. It becomes a radically different and professionally enhancing notion of accountability that could replace the current emphasis on prescription and control. Indeed, there is no area of education that cannot benefit from this mode of inquiry. Action research can be used to nurture an individual, a group, a school or an entire Board (Altrichter et al. 1993; Hopkins, 1993, Russell, 1995).

In this study participants agreed that action research can reduce individualism, and isolation. Action research also promotes professional development and enriches educators at any point in their career. Indeed, upon becoming a member of a community of educators, each participant is empowered to initiate change and transform some aspect of their praxis.

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