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Communicative Elements of Action Research as Teacher Development

Thomas G. Ryan

Abstract

This review considers human communications as utilized within a research design; in this case collaborative action research (CAR), a derivative of action research (AR), to achieve outcomes that change, and move participants forward. The association between AR and CAR is a deliberate attempt by the author to draw attention to communicative actions within each mode. Communication herein emerges via two channels, the nonverbal and verbal which combine to produce meaning in AR and CAR as researchers investigate. CAR was defined via numerous understandings of AR which were presented as a means to develop professionally. AR as reflective practice is presented, as is reflexivity within human communication that infuses research action and teacher development.

Introduction

The premise that all Action Research (AR) is an exercise in communication is detailed within the context of collaborative teachers as action researchers, often within a qualitative mode of inquiry. Included in the argument is the notion that “human communication is the process of one person stimulating meaning in the mind of another person (or persons) by means of verbal or nonverbal messages” (Richmond & McCroskey, 1995, p. 1). Ferrance (2000) suggested,

Collaborative action research may include as few as two teachers or a group of several teachers and others interested in addressing a classroom or department issue. This issue may involve one classroom or a common problem shared by many classrooms. These teachers may be supported by individuals outside of the school, such as a university or community partner. (p. 4)

Indeed, Collaborative Action Research (CAR) “involves collective learning [and] can be seen as a strategy for developing teacher leadership” (Smeets & Ponte, 2009, p.176). When we speak about what

we sense, exchange thoughts, discuss outcomes, and track progress recursively as CARs, we are often checking for understanding, accuracy and location. CAR can cause some to feel confused as the cycles of research unfold in a recursive manner over time. We revisit our discussions via transcripts, recorded interviews and gathered evidence to reassess, learn and reposition ourselves in the research process. We do this with a partner or small group of fellow researchers who communicate in an on-going systematic and strategic manner that supports the research.

Equally, working alone as an action researcher we may need to review our own notes, emails, pictures and gathered evidence to determine if the information was recognized and/or interpreted as necessary. We seek to pull-out, code, organize and grasp the messages realized from the evidence collected. As action researchers work to communicate within the AR mode, verbal and nonverbal messages supply information which may emerge through recordings of self, journals, pictures, classroom and other school artifacts (Ryan, 2008).

The AR and CAR processes can be lengthy, recursive, and piecemeal (Corey, 1953). By lengthy, I mean that our planned communication creates opportunities to share, discover, and may lead to personal growth via relationships (Corey, 1949; Henniger, 2004). The recursive nature of AR and CAR is experienced as ideas, observations, and topics of interest that are revisited over time in a manner that is at times unexpected and intense. As a result, AR and CAR can be a time of confusion and uncertainty as we attend to communication in a manner unlike daily lived experience while looking within ourselves and upon the unfolding research. The research effort sets in motion a means to realize enhanced understanding of ourselves, our practice and study via the communicative exercise that unfurls (Ryan, 2009).

Human action with purpose, strategy, and structure can be labelled and addressed within the terms 'action' and 'research'. We situate the research mode within lived experience, suggesting it is both intentional and deliberately composed by the researcher(s). AR [and CAR] is a means to investigate, assess (gather data) and move forward via data based decisions (Hase, 2011). This means of investigation is not new as Herodotus, an ancient Greek researcher stated many decades ago that his purpose was to preserve "from decay the remembrance of what men have done and to prevent the great and wonderful actions of the Greeks and the Barbarians from losing their due meed of glory" (Fadiman, 1978, p. 17). Herodotus captured his observations and reflections in his work entitled *Histories*, which when translated from Greek means inquiries and investigations.

Arguably educators today are capturing their observations using AR/CAR as a tool while exploring and documenting their own histories for preservation and growth. It was another great teacher, Socrates, who stated that a life without inquiry is not worth living (Fadiman, 1978). Socrates supplied AR/CAR with a mode of questioning, where everything is questioned, and truth is approached only through dialogue and via the engagement of minds. Throughout human history dialogues (conversation) have been honoured in countless contexts, thought of as art, and open to condemnation, especially when the

interchanges were documented and given further consideration, as in action research transcripts.

Teacher as Communicator

An educator's choice to enter into AR/CAR is a good one for several reasons. Since your early training to become a teacher you have been made aware of how important communications are within teaching. In fact you were graded on your ability to communicate in regular practicum experiences while training to become a teacher. Probably an external examiner visiting your (practicum) placement classroom checked off your strengths and needs from a list of teaching traits via actions observed, and later you sat down and went over these observations collaboratively. To succeed in this pre-service process you had to be a good listener and speaker (presenter), or at least be on your way to becoming one. Your debriefing and work within the pre-service program required you to consider and refine the nonverbal (channel) elements of your classroom performance. It may address the Figure 1 which has been organized according to levels of power, since the educator is an authority by default and must manage their classroom to succeed.

Being aware of these nonverbal elements of communication enhanced your ability to teach, listen, facilitate, and discuss topics and issues you sensed, observed and/or learned. These skills continue to be essential for teaching and all action research projects, and the fact that all teachers communicate using a variety of communication behaviours means that educators entering into an action research enterprise have a full communication toolbox as a resource in any situation. However it is also possible that any of the above noted nonverbal elements could become a central question of an action research investigation.

Verbal communication is the other channel we use in the classroom, in some cases to manage a classroom. Viewed from a classroom management (power) perspective we can organize the verbal behaviour of a teacher into levels (See Figure 2). While educators are skilled in communication and use both channels in all situations daily, the role within action research is different from teaching. The research role requires sustained, strategic and

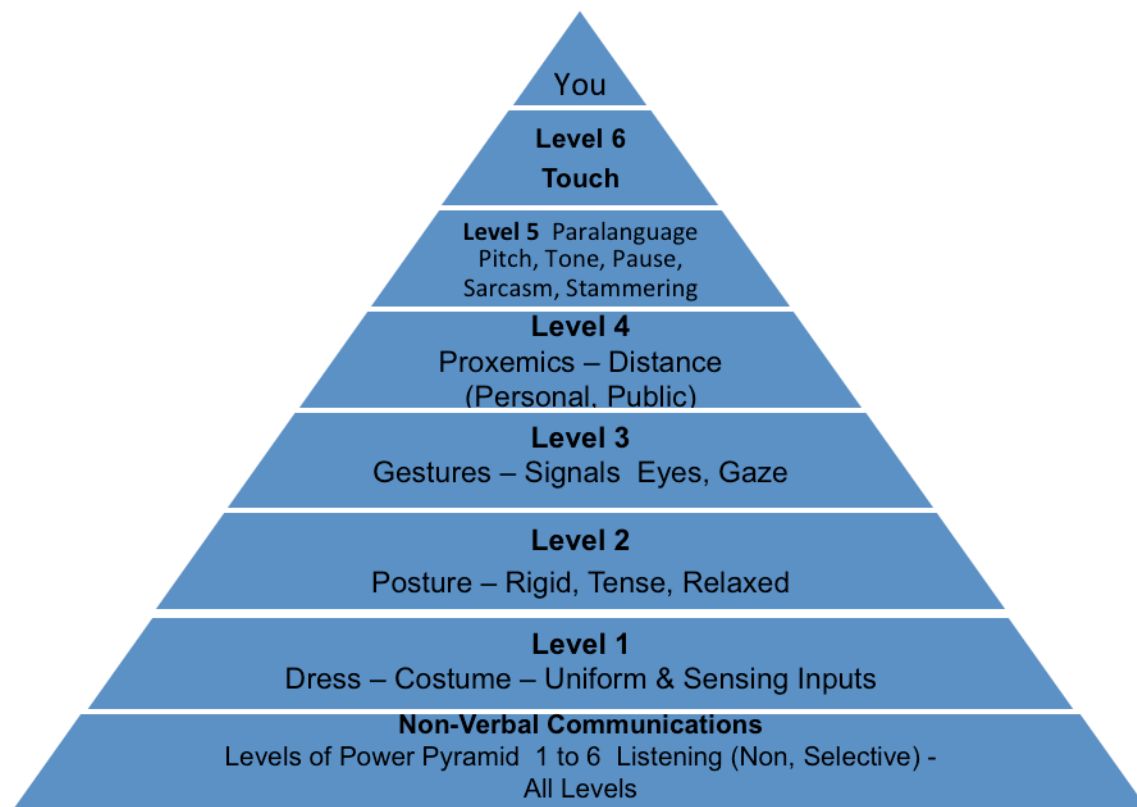


Figure 1. Non-Verbal Communications – Levels of Power

(Ryan, 2006, p. 184)

systematic attention to a problem/issue and the collaborators (co-researchers) are constantly aware of the need to collect and interpret data in a variety of ways via While educators are skilled in communication and use both channels in all situations daily, the role within action research is different from teaching. The research role requires sustained, strategic and systematic attention to a problem/issue and the collaborators (co-researchers) are constantly aware of the need to collect and interpret data in a variety of ways via many forms of action including communicative actions. For example, choosing data that are most suitable for the issue/problem being studied can cause the researcher to look within non-verbal and/or verbal evidence.

Examples include student journals, administrative files, transcripts of meetings(conferences), recordings, class/school surveys, school records (health, tests, report cards), attendance records, assessment and evaluation efforts, student work, class and school projects, in-class and school-wide

performances, interviews, portfolios, journals/diaries, field notes, photos, emails, memos, computer communications (Skype/social media), questionnaires, focus groups, phone logs/records, anecdotal records and checklists. Of course all actions are previously acknowledged and ethically approved by authorities before moving into an AR project.

While sources of data seem everywhere it is an important decision to select at least three sources (triangulation) of data for the basis of evidence collection. This data collection in itself requires effective communications as the co-researchers within the CAR effort work within school or community and bring individuals together for a shared purpose. All involved in CAR tend to become supple in their views, perceptions, and thinking as new ideas move into collaborative conversations (Hollingsworth, 1994). This AR/CAR oral inquiry mode (Cochran-Smith & Lytle, 1993) has the power to infuse positive change into the AR/CAR project. Being aware of the nonverbal and

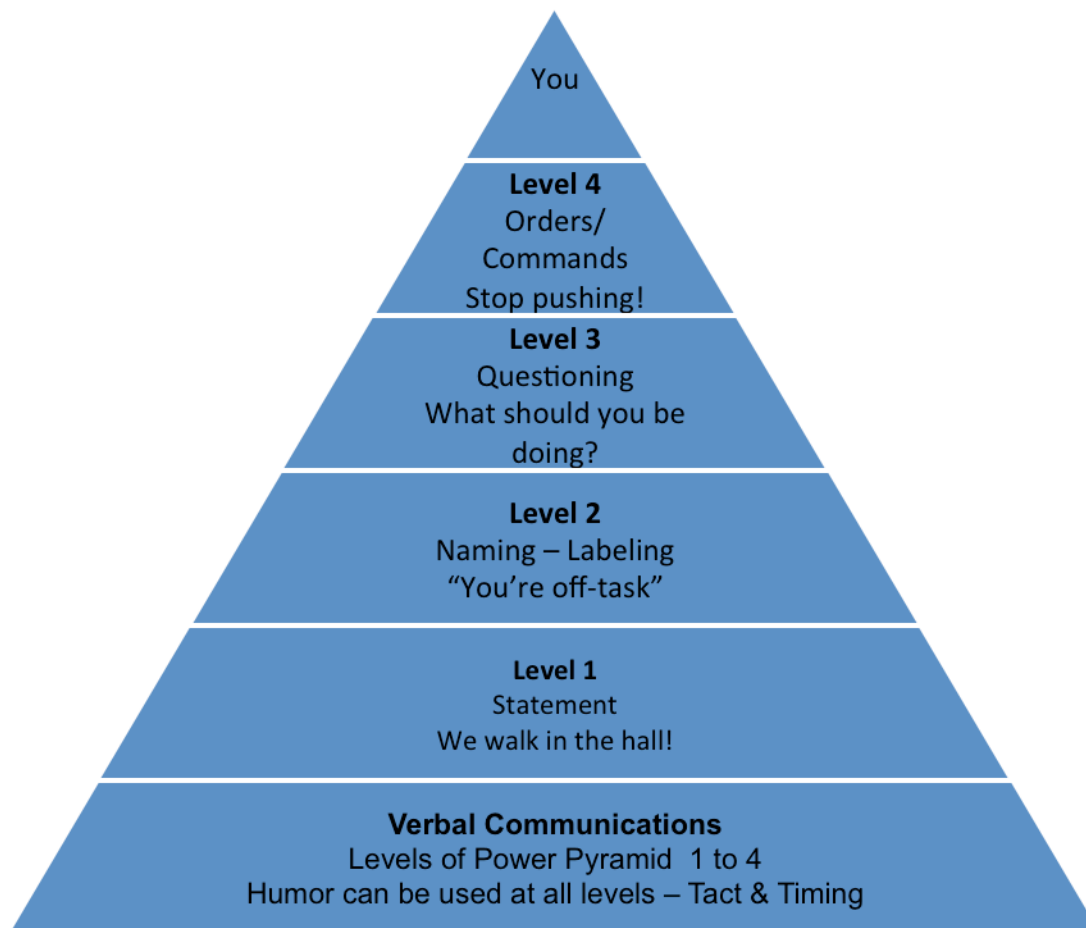


Figure 2. Verbal Communications – Levels of Power

(Ryan, 2006, p. 188)

verbal channels is important and vital to communicative success in CAR.

Action Research/CAR: Meaning, Purpose and Definition

AR/CAR is a process for encouraging positive change (Bogdan & Biklen, 1992), which is very much rooted in qualitative methodology (Hase, 2004, p. 2). Positive change is frequently attached to teacher/researcher action that can be solely individualistic; however the change(s) may be enacted by a group of teachers (co-researchers/collaborators) who have undertaken substantive action in order to achieve better results. "Action research combines a substantive act with a research procedure; it is action disciplined by

inquiry, a personal attempt at understanding while engaged in a process of improvement and reform" (Hopkins, 1993, p. 44).

Therefore, AR/CAR may operate independent of the number of people involved; it is the actions that are important, as it enables people to take control via critical theory (change). It is the action that underpins the very nature of AR/CAR (Hopkins, 1993).

Action research is, therefore, a deliberate way of creating new situations and of telling the story of who we are. Action research consists of deliberate experimental moves into the future, which change us because of what we

learn in the process. (Connelly & Clandinin 1988, p. 153)

At the core of AR/CAR is the requirement to reflect. Dewey in *Art as Experience* (1934) explained:

Each of us assimilates into himself something of the values and meanings contained in past experiences. But we do so in differing degrees and at differing levels of selfhood. Some things sink deep, others stay on the surface and are easily displaced. (p. 71)

Therefore the past informs the present to a different extent within each individual. Reflection in education can be traced back to Schon (1983) who described two necessities: 'reflection-in-action' and 'reflect-on action'. In doing so, the participant increases awareness, growth, and can change in ways that may have been missed in the non-reflective mode (Henniger, 2004; Ryan, 2009). To reflect while teaching is a dualism that challenges many, yet through practise these tasks can be realized simultaneously; to reflect after the activity is something that improves with effort.

Some may ask: What is reflection? Reflection is a state of mind, an ongoing constituent of practice, not a technique or curriculum element. Reflective practice can enable practitioners to learn from experience about themselves, their work, and the way they relate to home and work, significant others and wider society and culture. It gives strategies to bring things out into the open and frame appropriate and incisive questions never asked before. It can provide relatively safe and confidential ways to explore and express experiences that might otherwise be difficult to communicate. (Bolton, 2010, p. 3)

Bringing this understanding into view within the school and the community can lead to discussion and growth. Historically, Dewey (1933) and Schön (1983) concluded that teaching was multifaceted and best served via reflective practice. Reflection, however defined, enacted, and applied, is an element that needs to be understood from the onset of any AR effort (Ryan, 2008).

AR has been defined in many ways over the years,

which has led to several unique understandings of purpose. For instance Corey (1949) suggested, "the action researcher is interested in the improvement of the educational practices in which he [she] is engaging. He [she] undertakes research in order to find out how to do his [her] job better -- action research means research that affects actions" (p. 509). This purposeful statement followed the work of Lewin (1946) who, to this day, is widely acknowledged as one of the earliest researchers to employ the concept of action research. Action research. . .

is at once, a technology -- that is, a set of things one can do, a set of political commitments that acknowledges, however tacitly, that educational (and other) lives are filled with injustices -- and a moral and ethical stance that recognizes the improvement of human life as a goal. (Noffke, 1995, p. 4)

AR and CAR is a means to realize both personal and professional goals. The "the differing purposes within an action research project affect the personal value of the outcomes" (Noffke, 1997, p. 331). Each collaborator has ethical positions that can be seen in the personal, professional, and political dimensions of communication. For instance in recorded text, if the quantity and quality is adequate, these dimensions can be identified, coded, and interpreted. We can also see change, growth, and transformation in much of the data emerging from AR/CAR. It is through this growth that awareness and understanding occurs for the researcher. Again, each researcher is then free to reflect on, revise, and transform one's practice and educational presence due to the often transformative experience within AR/CAR. Communication and questioning may lead to new value positions yet it is the dialectic reasoning exercise that may bring about synthesis and/or reconciliation of divergent views within the personal, professional and political dimensions (Noffke, 1997).

AR continues to undergo a metamorphosing genesis "as people adapt the basic concept of inquiry by teachers to their own views of desirable educational research or approaches to teacher education" (Feldman & Atkin, 1995, p. 127). To illustrate, Bronson (1995) explained how his. . .

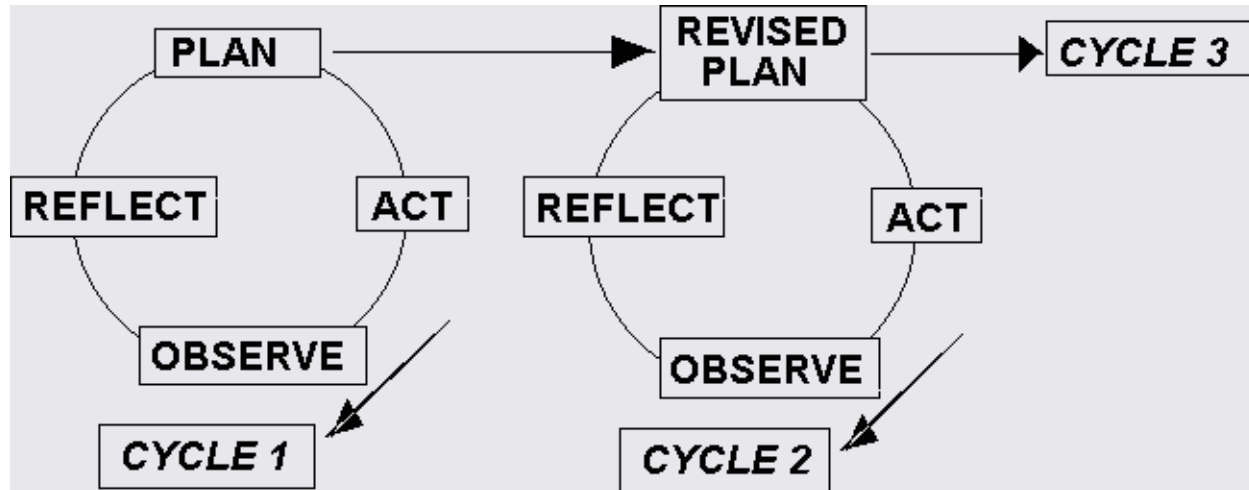


Figure 3: Recursive Action Research Cycles (Used with permission of the authors)

(Riding,

Fowell, & Levy, 1995).

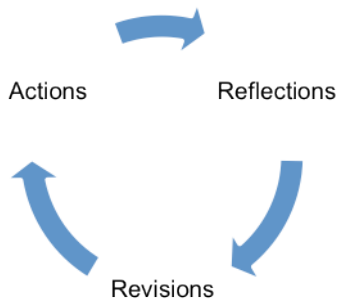
conception of action research was critical to [his] use of this methodology within [his] social studies classroom. [He views] the action research process as rooted in the desire to critically examine the practices one employs in an effort to improve those practices and the understanding of those practices. (p. 95)

Much of what we learn is by communicating and via personal reflection (Ryan, 2009). Our conversations can transform and illuminate beliefs and value positions. Our spiralling, a feature of AR/CAR, and the intense communication produce a great deal of data. We look within data, to plan the next action (step). AR and its cousin CAR is about repeating this cycle of thinking, looking, and acting (Figure 3), where participants are encouraged to look at their own theory, values, and interests, underpinning their rhetoric and practice. Much of this can be buried deep, tacit, and require excavation by communicative action. Moving away from what is known requires courage, a sense of purpose, and determination.

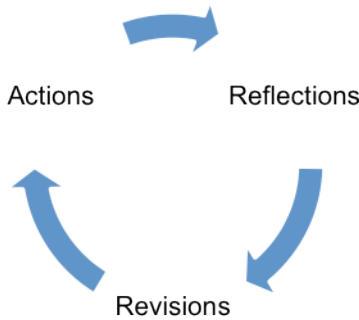
We are creating a new awareness with collaborators, and this knowledge creation may seem unusual for many educators, who could be worn down by the 'routinization' of schooling.

In spite of differences in basic methodological assumptions action researchers share the idea that knowledge creation is not something exclusive for scientists or experts. Scientists and experts contribute as humble parts in a cooperative knowledge creation process. The idea of a knowledge society is – in contrast to actual conceptions of a knowledge society – a utopian idea of democratically cooperating people. The action researchers have a special task in creating of critical awareness about the necessity and possibility of democratic knowledge creation. (Nielsen & Nielsen, 2006, p. 19)

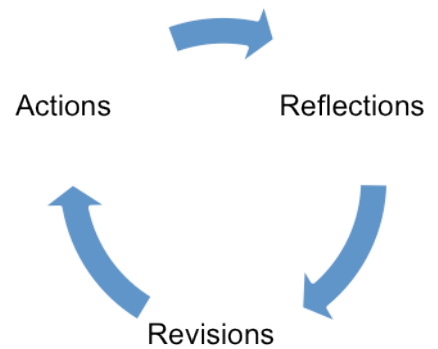
AR and CAR is accessible and suits our purposes as it is malleable. As a research design it is attractive, built upon the qualitative aspects of reflective practice that promises, by its very nature, covert and overt improvement. This is often discussed via moments of shared discovery and collaboration (Ryan, 2007). AR and CAR have more than a few advantages over traditional research as these modes instill confidence (mindset) for practitioners to deal with and take charge of their surroundings. AR/CAR supports users as they evolve and make changes. AR/CAR may require reflective action yet this also serves to nurture reflection and reflexivity



Cycle 1 is Practicum 1 (Teaching)



Cycle 2 is Practicum 2 (Teaching)



Cycle 3 is Practicum 3 (Teaching)

Figure 4: Teacher Development: Action Research Cycles

(Ryan, 2006, p. 84)

as it empowers and professionalizes practice (Glanz, 1991).

It is because of these strengths that AR/CAR is introduced in many Faculty of Education programs where teacher growth, development and training are undertaken. One application or model for teachers in training can be noted below where each

practicum session is a cycle of AR that at times becomes CAR with the involvement of the Faculty advisor and supervising classroom teacher.

Reflexive Undertaking

AR/CAR involves human communicative (verbal and nonverbal channels) action that is reflexive,

since reflexivity is a semantic quality attached to all words, terms, and phrases used as a language (Ryan, 2007). The words of a language have meaning as long as the receiver decodes and processes the messages. If so, the receiver can interpret and ascribe meaning to the words that the sender uses. Yet the sender needs to have sufficient knowledge and experience to assign meaning to the words selected and used. Winter (1996) adds “that most statements rely on complex, interpersonally negotiated processes of interpretation. Individual words only have effective meaning because of the vast array of knowledge of other words and their meanings, brought to bear by speaker and listener” (p.19). As a result researcher reflexivity is crucial even when all participants share a common background.

For instance, when group members in the school system are subject to similar experiences and develop a common framework of understanding (and a language in which to express it), concern for researcher reflexivity should be magnified. Since it is the inner understandings (personal voice) that needs to surface, it is only then that complete understanding may be possible. When individual or group reflexivity is not attended to, communicative problems arise (Ryan, 2007). In fact, there may be significant chunks of implicit meaning to which there is no access for the group or the individual researcher.

In sum, the reflexive act can change and color research, the researcher, and some would argue that the actions and statements within any field could only be fully understood from within the context that they were produced.

Professional Development: An Action Research Outcome

Authentic learning and improvement (see Figure 3) occurs within the communicative nature of action research (Elliott, 2007). AR/CAR leads teachers to become autonomous researchers, increases motivation, and prepares teachers to reflect critically (Adomaitiene, Zubrickiene, & Tereseviciene, 2007). It is important for teachers to arrange and manage their own educational activity. “Today’s teachers can no longer remain passive

observers; they have to take initiative in solving everyday problems: why, how and what to do in order to avoid future failures and achieve better results” (Adomaitiene et al., 2007).

CAR “that involves collective learning can be seen as a strategy for developing teacher leadership” (Smeets & Ponte, 2009, p.176). Additionally, knowing that AR/CAR complements education and is accessible may be reason enough to become involved. Yet when European researchers surveyed educators ($n=274$) from all seniority levels, they found new teachers (1-3 years of experience) and experienced teachers (7-18 years of experience) were the most willing researchers (Vogrinc & Valencic Zuljan, 2009). They concluded that new teachers were more open and viewed it as a continuation of their University training, whereas veteran teachers (19 or more years of experience) shunned research. The study also noted that most teachers would welcome praxis improvement, however communicating results with the public, data collection, and writing reports were viewed negatively by participants.

I argue that all teachers can initiate the solving of everyday problems by entering into the professional activity of AR/CAR. “Addressing concerns, problems or questions through action research is highly relevant to teaching and student learning because the context of a teacher’s work is primarily within the classroom” (Elliott, 2007, p. 35).

Judgement

Judgement, the foundation of success in teaching and research, is always open to questioning. Judgements may seem elusive and difficult to measure yet Hodson (1993) reminds us that “[w]e need to guard against undervaluing that which we cannot measure...we can still make judgements, provide criticism and proffer advice” (p.143). In education many activities appear to be immeasurable, such as effective teaching, leadership, and action research with its reflective practice component and qualitative core. Deciding to use action research is in itself a bold undertaking. I undertook a study of literacy at an elementary level school and worked collaboratively with elementary educators (co-researchers). We entered into several data collection modes such as



Figure 5: Teacher Improvement via AR/CAR

(Ryan, 2006, p. 12)

interviews, observation, reflections, journaling and conversation. What follows is one partial interview transcript where you can sense the communicative challenges inherent in collaborative action research.

Dr. Ryan: If we look at student literacy, what strategies do you use to develop it?

Teacher R: For student literacy I do...the board has a big focus on the (?? balance??) literacy approach and I am totally involved in that. They're not enforcing it for junior. It's been really hit hard and driven well for the primary level so I just sat with some primary teachers and went in on some of their literacy meetings

and I mimic what they're doing at the junior level. So some of their assessment tools and strategies they use I have to tweak it a bit because it doesn't quite apply to junior level. But I still use the same approach, so I have my guided, my shared, my shared writing, and my shared reading. All of that takes place, independent reading, all that takes place in my block hour. That's my approach.

Dr. Ryan: So what strategies again do you use?

Teacher R: Guided reading, guided writing, shared reading, shared writing, writer's workshop, reader's workshop, independent and

one-to-one with the teacher and group. And literacy centers fall into that category as well. And literacy centers are very, very good because it is more student-driven. The assignments are there for them; the information activities are there for them. But it is student-driven when it comes to how they handle them and approach them.

Dr. Ryan: Your current class in terms of the [Provincial Government Curricula] Ministry levels of literacy, 1 2 3 4, 3 being the norm or the provincial target, how would you rate your class?

Teacher R: Now are you looking at an EQAO [provincial testing agency] based on now that I have a 5/6 approaching the testing that is going to be happening or is it like a rubric...

Dr. Ryan: If you were developing literacy rubrics where would you position your class, at what level, at this point in time?

Teacher R: I would say lower end...I would say a two. Only because I'm bringing some new students into the room who I didn't teach last year who never even touched upon what a literacy center is. Also they have never had leveled reading. They have level reading at primary, but when it got to four it stopped. And then all of a sudden the teachers divide it into two groups, here's a novel, here's a novel, and did novel studies that way. They didn't continue the leveling. So now that they're in 5/6, my fives that I had in four last year are aware of it, any sixes that I have now that were at five last year are aware of it, but my new students in those two grade categories it's all new to them. I usually use the group approach and it works well because they help each other. So they're in groups all day long. Well I am hoping that through modeling of a peer and from what they see going on in my teaching that they will get into this act of literacy and know where they are heading with the literacy center and the balanced literacy approach. So I would put them...because it's October and I just finished 20 days of independent reading with them to get them to love books, to hook them.

Now I am getting into the literacy center, day one is tomorrow. So it's too new for me to be assessing them higher than that (Oct, 2011, p. 3).

What is noticeably missing is the nonverbal channel which was noted by the interviewer as the interview unfolded. Often you may have an observer in the interview take notes on this to capture the evidence. Reflecting on the interview, the transcript of the interview and the eventual discussion of the interview may bring about change, yet open and democratic discussion may provide a catalytic effect common in all AR/CAR projects.

Utilizing AR/CAR to examine thoughts, positions, and stances seems a worthy goal. However, the ability to judge based on value positions provides clarity in any AR undertaking. Most teachers search for and locate good practices and theory using critical reflection as part of their personal practical knowledge building (Connelly & Clandinin, 1988). Few teachers take the next step of collaborative documentation or attempt AR/CAR in a habitual manner. This avoidance of the next step becomes praxis. This praxis is often due to the reality that teachers have many more tasks than they have time for. Teachers do their best given the ever-changing contexts with which they are faced and the constraints, such as common release time, and other logistical considerations (Gray & Wilcox, 1995).

Conclusion

To summarize, I have argued that human communication (nonverbal and verbal channels) is the centrepiece of AR/CAR. AR/CAR is a means to purposefully search for meaning, growth, and professional development within education. AR/CAR is a recursive scheme that is sustained, strategic and systematic, as it involves the reflexive elements of language while supporting participants as they search for enhanced understanding and improvement.

Data collection may take many forms yet it is the discussion, conversation, and dialogue which often are critical in building relationships in AR/CAR. AR/CAR is an experience involving judgement, values, moral intuition, and human effort to move

forward and grow. All that remains is the decision to embrace AR/CAR as a necessary tool to professionally develop within your role as educator.

References

- Adomaitiene, J., Zubrickiene, I., & Tereseviciene, M. (2007). Professional teacher development in performing action research. *Research on Vocational Education Training*, 15(1), 10-21.
- Bogdan, R., & Biklen, S. K. (1992). *Qualitative research for education*. Boston: Allyn & Bacon.
- Bolton, G. (2010). *Reflective practice: writing and professional development*. Thousand Oaks, CA: Sage.
- Bronson, G. (1995). Putting the 'p' into participation in government course. In Noffke, S. E. & Stevenson, R. B. (Eds.), *Educational action research: becoming practically critical*. New York, NY: Teachers College Press.
- Cochran-Smith, M., & Lytle, S. L. (1993). *Insidel/outside: Teacher research and knowledge*. New York: Teachers College Press.
- Connelly, F. M., & Clandinin, D. J. (1988). *Teachers as curriculum planners: narratives of experience*. Toronto, ON: OISE Press.
- Corey, S.M. (1949). Action research, fundamental research and educational practices. *Teachers College Record*, 50, 509-14.
- Corey, S. M. (1953). *Action research to improve school practices*. New York: Teachers College Press.
- Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. Chicago : D. C. Heath.
- Dewey, J. (1934). *Art as Experince*. New York, NY: Berkley.
- Dewey, J. (1963). *Experience and education*. New York, NY: Macmillan.
- Elliott, C. (2007). Action research: authentic learning transforms student and teacher success. *Journal of Authentic Learning*, 4 (1), 34-42.
- Fadiman, C. (1978). *The lifetime reading plan*. New York, N.Y.: Thomas Y. Crowell Co.
- Feldman, A., & Atkin, M. (1995). Embedding action research in professional practice. In Noffke, S. E., & Stevenson, R. B. (Eds.), *Educational Action Research: Becoming Practically Critical* (pp. 77-89). New York, NY: Teachers College Press.
- Ferrance, E. (2000). *Action research*. The Education Alliance at Brown University. Providence, RI: Brown University.
- Glanz, J. (1991). *Bureaucracy and professionalism: The evolution of public school supervision*. New Jersey: Fairleigh Dickinson University Press.
- Gray, J., & Wilcox, B. (1995). *Good school, bad school: Evaluating performance and encouraging improvement*. Bristol, PA: Open University Press.
- Hase, S. (2004, October). Action research in the workplace, pedagogy or pragmatism? That is question', paper presented at a symposium held for the Work and Learning Network, University of Alberta, Alberta, Canada.
- Hase, S. (2011). Learner defined curriculum: heutagogy and action learning in vocational training.
- Henniger, M.L. (2004). *The teaching experience: An introduction to reflective practice*. Upper Saddle River, NJ: Pearson.
- Hodson, D. (1993). Against skills-based testing in science. *Curriculum Studies*. 1(1), 127- 148.
- Hollingsworth, S. (1994). *Teacher research and urban literacy education: Lessons and conversations in a feminist key*. New York: Teachers College Press.
- Hopkins, D. (1993). *A Teacher's Guide to Classroom Research* (2nd ed.). Philadelphia: Open University Press.
- Lewin, K. (1946). *Resolving social conflicts*. New York, NY: Universe Books.
- May, R. (1953). *Man's search for himself*. New York, NY: Dell Publishing Co.

- Nielsen, K. A., & Nielsen, B. S. (2006). Methodologies in action research. In Nielsen, K. A., & Svensson, L. (Eds.), *Action research and interactive research* (pp. 254–277). Maastricht: Shaker Publishers.
- Noffke, S. E. (1995). Action research and democratic schooling: problematics and potentials. In Noffke, S. E. & Stevenson, R. B. (Eds.), *Educational action research: becoming practically critical*. New York, NY: Teachers College Press.
- Noffke, S. E. (1997). Professional, personal, and political dimensions of action research. In Apple, M. (Ed.). *Review of Research in Education*, 22, (p. 305 - 343). Washington, Richmond, J.C., & McCroskey, J.C. (1995). *Nonverbal behaviour in interpersonal relations*. (3rd Ed.). Allyn & Bacon, New York: NY.
- Riding, P., Fowell, S., & Levy, P. (1995). An action research approach to curriculum development. *Information Research*, 1(1) Retrieved from <http://InformationR.net/ir/1-1/paper2.html>
- Ryan, T. G. (Ed.). (2009). *Canadian educational leadership*. Calgary, AB: Temeron Books/Detselig.
- Ryan, T.G. (2008). Action research: An essential teacher development mode. In A. Garuba & L. Irwin (Eds.), *Teaching and education for teaching in developing countries: Essays in honour of professor jophus anamuah-mensah*. (pp. 45-54). Ghana, Africa: SACOST, University of Education, Winneba.
- Ryan, T.G. (2007). Leading while looking back and within: Reflective and reflexive modes. In S. Donahoo (Ed.), *Teaching leaders to lead teachers: Educational administration in the era of constant crisis*. (pp. 45-59). London, UK: Elsevier.
- Ryan, T. G. (2006). *The reflexive classroom manager*. (2nd Ed.). Calgary, AB: Temeron Books/Detselig. *The reflexive special educator* - Calgary, AB: Temeron Books/Detselig, D.C. American Education
- Smeets, K., & Ponte, P. (2009). Action research and teacher leadership. *Professional Development*, 35 (2), 175-193.
- Schon, D. A. (1983). *The reflective practitioner*. New York: Basic Books.
- Vogrinc, J., & Valencic Zulijan, M. (2009). Action research in schools- an important factor in professional development. *Educational Studies*, 35 (1), 53-63.
- Winter, R. (1996). Some principles and procedures for the conduct of action research. In Zuber-Skerritt, O. (Ed.) *Action research for change and development*, Aldershot: Gower-Avebury.