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Action Research: A Learning Tool
that Engages Complexity

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Paper to compliment poster presentation

Abstract[1]

Innovative micro-teaching to enhance student teaching/learning is increasingly using the concept of Action Research. In action research the particular focus is on the subject of the research also being a learner from the research outcome. The Kemmis Model (Cyclical Model of Action Research) introduced the notion that 'all teachers are learners' and 'all learners can be teachers'. Action research emphasises the notion of self observation and self reflection. However observation and self reflection are challenging methods that value the personal nature of learning.

The authors undertook an action research experiment, as part of their own professional learning, by introducing micro teaching practicum presentations video recording to a postgraduate education class of 20 adult/community educators during a curriculum development module.

In this exercise the learning group was subdivided into two parts:
1. The first group of students were recorded and a DVD was made available to each presenter. The students reviewed their own recording and completed a questionnaire to identify if their learning was enhanced by self reflection using visual recording.
2. The second group were video recorded and the DVD reviewed. However, this group also received written feedback from their peers.

The outcome of this micro teaching action research exercise demonstrates the complexity of self perception and self learning. It highlights that the action reflection methodology has to be very aware of complexity in learning. When that complexity is recognised and valued then action research can be an inclusive research process that encourages reflection as praxis. This experiment also suggests that group involvement in person reflection can increase complexity. The outcome of this experience shows that the recording of presentations for self reflection can encourage deeper levels of learning, and can enhance learning particularly in higher education.

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[1] This conference presentation paper is drawn from a research project submitted by Hynes & Kenny to the National University of Ireland Maynooth in partial fulfilment of the requirements for the Postgraduate Diploma in Higher Education 2008.

1. Context and literature review

Context

This paper arises from an action research assignment completed in fulfilment of the Post Graduate Diploma in Higher Education at the National University of Ireland, Maynooth. In this assignment the micro teaching practicum presentations of 20 Higher Diploma in Adult and Community Education course students were videoed. Students agreed to participate in a two-step action reflection process to identify the levels of self reflection arising from watching their own DVDs and peer observation. Participants completed a questionnaire to identify the impact on learning.

How Adults Learn

When we, as a society, consider learning we usually focus on the quality of the teaching that brings about learning. We see learning as acquiring new knowledge and we see teaching as the art and science of pedagogy. In teaching teachers assume responsibility and direct what, how and when learning will happen.

However we now know, and have known since the time of Plato and Confucius, that learning is not a passive authoritarian process; teacher centered. Theorists like John Dewey and Eduard Lindeman sought to focus on placing the learner at the centre of the educative process. Building on the earlier work of Lindeman, Knowles[2] asserted that adults require certain conditions to learn. He suggested the following conditions to facilitate effective andragogy (the process of adult learning);
(1) Learners need to know why something is important to learn.
(2) Learners need to have the capacity to direct themselves for learning.
(3) Learning needs to be related to the learners' experiences.
(4) People will not learn until they are ready and motivated to learn.
(5) Learners need help in overcoming inhibitions, behaviors, and beliefs about learning.
Androgogy is a process of active inquiry.

The Constructivist Learning Theory

It is vital for us to be cognisant of the range of learning theories when we seek to intervene for more effective learning. Constructivism is founded on the premise that by reflecting on our experiences we construct our own understanding of the world we live in, we construct our meaning and not to just memorize the "right" answers to be regurgitated later. Constructivists suggest that learners construct their own meaning by building on previous knowledge and experience. When the learner has new experiences they compare them to existing knowledge & experience and then the learner constructs adapted ways of making sense of the world. In the process of comparing knowledge and experience the learner is brought into contact with their 'Zone of Proximal Development' (ZPD). Vygotsky (1934) suggested that learning was enhanced when learners interacted with each other in a social zone (ZPD). This theory was termed Social Constructivism.

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[2] Knowles M,1973, The Adult Learner: A Neglected Species.

The use of video recording enhances the personal ZPD and the social ZPD in a way that is not available in the absence of this technology. Arising, video recording enhances Constructivist Learning.

Learning styles & Intelligences

Learners do not interact with learning in a homogeneous way. Learners perceive and process information differently depending on the influence of factors such as heredity, upbringing, influences and various environmental demands. Learning styles may be classified as: Concrete and/or Abstract Perceivers (CAPs) and Active and/or Reflective Processors (ARPs). The method of teaching must take cognisance of the learning style range of the learners.

Kolb & Fry identified four learning styles[3] (Converger, Diverger, Assimilator, and Accommodator). Gardner[4] suggests there are at least seven ways that people have of perceiving and understanding the world; distinct "intelligence" or mental processing skills.
Therefore the learning situation must equally take cognisance of the range and multiplicity of the learner intelligences.

Active teaching methods

Active teaching methods are, by their nature and their process, the most suitable methods to accommodate the range of learner intelligences and the range of learning styles within the appropriate learning theory for effective learning. Active teaching focuses on engagement, participation, empowerment, facilitation and process. In adult education the engagement of the students in their own learning is a pillar of androgogy.

In the assignment upon which this paper is based the authors explored how the learning impacts of a practicum presentation could be enhanced through oral, written, and visual peer feedback. The educative value of the practicum[5] and of reflection[6] and reflective practice[7] is presumed. Therefore, it is critical that the learner develops the skill of reflection and utilises reflective practice optimally.

Assessment through Observation, Peer Feedback & Reflection

Peer observation and peer feedback (not the same as a performance appraisal or peer evaluation) is a key element of academic development according to Bell & Mladenovic[8] and is a way to get additional insight into practice. Bell[9] defines peer observation as a: ''collaborative, developmental activity in which professionals offer mutual support by observing each other teach; explaining and discussing what was observed; sharing ideas about teaching; gathering student feedback on teaching effectiveness; reflecting on understandings, feelings, actions and feedback and trying out new ideas''. While Bell & Mladenovic report that peer observation is potentially beneficial if conducted under supportive conditions, two disadvantages are that it requires significant course time, and it may be seen as intrusive[10].

Collective or group feedback discussions on practicum presentations increases the range of insights available to the presenter. The disadvantage is that such collective feedback requires at least the same amount of time as the presentation itself. Written feedback is commonly used to

[3] Tennant, M. 1997, Psychology and Adult Learning 2nd Edition, London: Routledge.

[4] Gardner, H. 1983, Frames of Mind: The Theory of Multiple Intelligences. New York: Basic Books

[5] The practicum constitutes an integral part of many professional courses in higher education", see Ryan G., S. Toohey and C. Hughes. 1996, The purpose, value and structure of the practicum in higher education: A literature review, in Higher Education, 31 3, pp. 355–377

[6] Socrates is creditied with the statement 'An un-reflected life is not worth living'

[7] See Schön D. 1987. Educating the reflective practitioner: Toward a new design for teaching and learning in the professions. Jossey-Bass, San Francisco

8 Bell A & R Mladenovic 2007. The Benefits Of Peer Observation Of Teaching For Tutor Development in Higher Education (2008) 55:735–752

9 Bell, M. (2005). Peer Observation Partnerships In Higher Education: Higher Education Research and Development Society of Australasia Inc.

[10] Lomas and Nicholls referenced in Bell & Mladenovic

enhance self learning. Written feedback may be used in conjunction with collective/group feedback discussions or may be used as a stand-alone technique. Written feedback without discussion is limited because the presenter does not have the opportunity of interrogating the feedback.

Assistive technologies offer the possibility of levering increased performance from available resources and time. Kpanja[11] suggests that "There is abundant literature to support the view that significant changes can be affected by using video recordings of a practicing teacher during micro teaching".

Video recording was not previously used in this course microteaching practicum situation. Group discussion of presentations was encouraged but end of module evaluations reported significant frustration among learners that "There was never enough time to analyse presentations" and that "Limited feedback left more questions than answers"[12] Additionally presenters did not have any record of the presentation to replay for ongoing insight, reflection and learning.

Video as a Tool for Active Reflection
Video offers an enhanced opportunity for individual and collective feedback leading to critical reflection. Koszalka, Song, and Grabrowski[13] define reflection as active, persistent, and careful consideration of any belief or practice. The definition of reflective learning provided by Boud et al.[14] (p. 19), states that reflection is about providing intellectual and affective activities for learners to explore their experiences 'in order to lead to new understandings and appreciations'.

A quotation from the PGDHE course notes[15] places reflection within action research 'Reflection is a process in which practitioners step back from the fast-paced and problematic world of practice to ponder and share ideas about the meaning, and impact of their practice … from such reflection, practitioners … gain new insights into the strengths and weaknesses of the current practice'

Reflection is presumed to improve teaching and learning according to Black n Conderman G & J Morin (ibid). This offers increased opportunity for the practitioner to reflect on the strengths and weaknesses of the presentation and engage in a reflective process over time.

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[11] Kpanja, E., 2001. A Study Of The Effects Of Video Tape Recording In Micro Teaching Training. British Journal of Educational Technology, Vol 32, No. 4, p. 483-486

[12] Course Module evaluations 2007
[13] See Conderman G & J Morin, 2004. Reflect Upon Your Practice. Intervention In School And Clinic, VOL. 40, NO. 2, PP. 111–115.
[14] Boud, D., R. Keogh & D. Walker (Eds) Reflection: Turning Experience Into Learning. London, Kogan Page, pp. 18–40.
[15] Gall & Borg, 1996

2. *Methodology*

Action Research

The action research model draws on the experiential learning model designed by Lewin, 1946[16] () and developed by Kolb, 1984[17] . While empirical research emphasises description and recording of empirical facts over a particular time period, action research focuses on the analysis of variance within a real-life situation. Action research happens in a real-world situation where the researcher is part of the process; not separate from it. Action research is an ongoing process of 'learning by doing' where the learner is the researcher and the doer, the researcher is the learner and the doer, and the doer is the learner and the researcher.

Action research encourages of flexibility enabling practitioners to;
- o Change procedures during the course of their research study
- o Operate within a relatively quick time frame
- o Use triangulation to observe a control situation
- o The student group with whom the practitioner is working is the accepted sample

Action research is an opportunity to bridge the gap between theory and practice by learning from experience in order to become better. Therefore according to Elliott[18] the fundamental aim of action research is to improve practice rather than produce knowledge.
As educators the key question of our action research is 'How can I help my students improve their quality of learning'. For the action research educator the key question is' How can I use action research to improve my own learning and be a better practitioner'. Elliot suggests action research necessarily involves a continuing process of reflection on the part of practitioners.

The action research method is a continuous cycle of
- o Identifying a problem,
- o Finding and analysing the facts relating to this problem,
- o Planning a strategy to address the problem based on the facts,
- o Implementation of the plan,
- o Evaluation the implementation,
- o Reflection on the outcome of the evaluation,
- o Arising, the formation of a new plan to address an identified problem,
- o and so on

The Action Research Process

For the purposes of this action research project the learner group was consulted by the tutors/researchers about the process, boundaries were clarified, and procedure was agreed. Within the syllabus for this unit of the curriculum development module two (2) classes each of two and one-half (2 ½) hours were set aside for practicum preparation.

The video camera was introduced to the preparation classes so that the learners became accustomed to its presence and the class saw the tutor being filmed. This was done to reduce suspicion and fear of recording teaching sessions. One tutor/researcher acted as observer of the other tutor/researcher as tutors presented their input to class. The effect of this modelling by the tutors/researchers was important for the class group as literature notes people become uncomfortable and self-conscious when they realise they may be observed or filmed.

The class coordinator drew up a list of teaching practicum presentation times and allocated names from the student list to these times at random. The student class representative undertook to negotiate with any student uncomfortable with their prescribed presentation time. Arising an

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[16] See http://www.infed.org/thinkers/et-lewin.htm
[17] See http://www.infed.org/biblio/b-explrn.htm
[18] Elliot. John. 1991. Action Research for Educational Change. Open University Press, Bristol.

accepted running order of presentations was agreed. All class participants were asked to complete a questionnaire prior to undertaking practicum presentations (available on request).

Six (6) students presented a micro teaching session to their peers & two course assessors in front of camera over a 2 1/2 hour period. No assessor or group feedback was given on presentations. This group of six (6) received their DVD along with a questionnaire (available on request). Five of the six presenters reviewed their DVD and completed the questionnaire within one week.

The feedback from this group noted that the self-assessment focused largely on physical presence and visual performance of the presenters rather than on teaching engagement and pedagogy.

In keeping with the action research process based on review of this feedback the researchers introduced an amendment to the research plan. The researchers sought to explore if written feedback to the presenters would focus more effectively on presenters teaching effectiveness. The researchers decided to add written feedback in addition to presenter's feedback in the next class. The student group were consulted and agreed to this amendment.

In the following class five people presented a micro teaching session to their peers & two course assessors in front of camera. In this case the peer class group was given a simple feedback sheet (available on request) to be completed and returned to the presenter at the end of their presentation. Again there was no feedback on presentations other than the written feedback. The group of five () presenters received their DVD along with a questionnaire (available on request). in conjunction with reading their feedback sheets completed by their peers. All of the presenters returned the questionnaire.

Respondents noted that the feedback was 'slightly biased', 'a bit too positive', 'overwhelmingly positive', 'most feedback lacked detail'; Respondents noted that positive written feedback did instill 'confidence in their teaching', was 'encouraging', 'it gives an idea of interaction ', 'it increases ability to focus more positively', and 'it was good to get positive feedback'. They also noted that perhaps the feedback was not 'honest feedback' because 'a peer will hold back true opinions'. They noted that they would have liked more criticism of their presentations.

3. Findings, results and analysis

Learning group profile

The group for this enhanced learning intervention was a group of 20 adult learners completing a Postgraduate Diploma in Adult and Continuing Education as part of their professional development. Eighteen (18) of the twenty (20) were available for the practicum presentation which is a component of the curriculum development module. The age-group of the eighteen (18) ranged from twenty-seven (27) years of age to forty-eight (48) years. The average age was thirty-four (34). Seventeen (17) of the eighteen (18) had made a teaching or public presentation previously. Six (6) of the seventeen (17) rated their performance in making a presentation as moderate, ten (10) rated their performance as good and one (1) rated their performance as very good.

The seventeen (17) participants were asked about their fears in making presentations. They were concerned about being judged, losing their train of thought, not maintaining engagement with the audience, making mistakes, being understood, being clear and concise, distracting gestures and hand movement, time management and running out of time, being nervous inability to deal with questions, failure of equipment and teaching aids, not giving the correct information, and panicking.

In contrast when asked about what they would want to achieve in a teaching presentation respondents noted the following; providing informative enjoyable and accessible class content, overcoming their fear of giving presentations, being able to engage satisfactorily with their learners, interacting with the class, getting positive feedback, communicating well, effective use of teaching aids, staying within the timeframe, assisting learners and ensuring that learning happens.

Eight (8) of the seventeen (17) participants had previously been filmed making a presentation and nine (9) had not. Seven (7) of the eight (8) had watched the playback of their presentation. They noted the following reactions to seeing their own playback;
- o   I looked better than I felt
- o   I noted my body movements and facial expressions
- o   I was embarrassed
- o   I hated it.
- o   I realised I spoke very fast.
- o   I wasn't as bad as I thought.
- o   I sounded a bit 'posh'. I saw unexpected ways of speaking and hand movement.
- o   I would be very good at landing a plane.

One (1) participant did not look at their presentation playback.

Four (4) participants responded to the question 'How they would feel about seeing yourself make a presentation. They noted the following;
- o   I would be nervous, awkward, embarrassed, and critical.
- o   I would be apprehensive but appreciate the value of this method of self-evaluation.
- o   I would probably be very critical of myself and self-conscious.
- o   I would be interested and see it as a way to develop my confidence.
- o   I wouldn't like people to see it. I would hope to identify positive points and areas that I could improve on.
- o   It would be good to get insights into strengths and areas for improvement.
- o   I think I would be critical, but it would be useful.
- o   I think it's a great idea and would show up where I can improve.

Response to review of DVD

The following is a summary of the content of the questionnaires received from five (5) presenters who reviewed DVDs of their presentation;

All (5) rated there are presentation as good from a continuum of poor to excellent. When asked what they particularly noted about their presentation they listed the following;
- o I use my hands and make a lot of gestures when speaking.
- o My speech included a lot of "um's" and "am's" due to nerves.
- o I was pleased with interaction with class, especially dealing with questions. I interacted well with class during brainstorm/group work.
- o Once settled I was reasonably happy with my body language.
- o My repetition of "the next thing" – need to be mindful of verbal-atics and avoiding them.
- o I didn't come across as nervous as I actually was.
- o At the time I thought I had not done a great job but looking at the DVD I think now I wasn't too bad.
- o I talked a lot.
- o Sometimes I didn't know what to do with myself when students were working.
- o I am more expressive (with my hands) than I thought I was.

All (5) responded that reviewing the DVD has contributed to their learning from the practicum experience. They supported this view as follows;
- o I was able to take note of my weaknesses and can now look to improving on these in the future.
- o Both the positive and negative things that I felt I had done in the presentation were confirmed for me by watching DVD.
- o I don't land as many planes by extravagant hand gestures as I used to.
- o I was glad that I appeared (semi) relaxed.
- o I could have pulled feedback together a bit better perhaps by writing it up on the flipchart.
- o The DVD highlighted positive and negative aspects of my presentations/class; provided an additional means of learning - visually & aurally; know for development of better practice. I can remember all parts of the presentation from looking at the DVD.
- o I know that I appear more confident than I felt (which is good).

All (5) responded noted that they would use this method (peer presentation, filmed and returned to presenter for review) with a learning group in the appropriate learning situation. They also added the following suggested modifications;
- o Make repeated presentations over the period of the course. By looking at the DVDs learners could see if they had achieved/improved on the areas they had identified from the first ones.
- o Objective feedback from assessors on ways to improve presentation skills would be valuable.
- o Provide opportunity for short practice sessions in front of camera.

As noted previously the action researchers identified an overemphasis on performance and confidence in the feedback. There was minimal comment on the effectiveness of the presentation for student learning or on pedagogical methodology. Arising the researchers decided to make an amendment to the feedback. In the next class peer observers were given a simple feedback sheet to compete at the end of the presentation and to hand to the presenter. The presenters were filmed but they were asked to complete their questionnaire based on the written feedback and rather than looking at the DVD of their presentation.

The following is the feedback from these questionnaires.

Response to written peer feedback

Four of the five teaching practicum presenters noted that they received written feedback on their presentation. One noted that they did not. This was an error as this person went on to give detail of the written feedback they received.

Respondents were asked how they would rate their presentation. One suggested 'moderate', two suggested 'good', and two suggested 'very good' based on the written feedback they had received from peer observers. Respondents gave the following reasons for the rating;

- o I came across clearer than I thought; feedback was more positive than expected; participants wrote about new knowledge.
- o Energetic delivery; interesting material; good visual aids eg. flipchart, powerpoint.
- o Interesting – kept the presentation interesting and attention of group; good visuals, people found it engaging and informative; all positive.
- o Good balance of discussion, presentation and film; film clip was interesting and entertaining; introduction clarified what was going to be done in the class.
- o Powerpoint confusing, too much info; enjoyment in moving around object.

Three (3) of the respondents noted that it the written feedback had contributed to their learning from the practicum experience. Two (2) respondents gave a mixed (yes & no) response. In their response to the next question they substantiated their view.

Respondents noted that positive written feedback did instill 'confidence in their teaching' was 'encouraging', 'it gives an idea of interaction ', 'it increases ability to focus more positively', and 'it was good to get positive feedback'. But they also noted that the feedback was 'slightly biased', 'a bit too positive', 'overwhelmingly positive', 'most feedback lacked detail'; and that perhaps the feedback was not 'honest feedback' because 'a peer will hold back true opinions'. The influence of the written feedback is evident in the respondent's comments. There is a significant amount of affirmation and confidence building in the written comments presenters received. However, respondents noted that they would have liked more criticism of their presentations.

Arising two (2) respondents noted that they would you use this method (peer presentation, peer written feedback) with a learning group in the appropriate learning situation? One (1) respondent said maybe (Yes and No)? Two (2) respondents did not answer this question. It is evident here that respondents are not confident that the written feedback they received was a true critical reflection of their micro-teaching practicum presentation.

In the last question respondents were asked to suggest modifications to this self-assessment feedback method that could improve learning. They suggested;

- o More anonymity may result in more useful feedback
- o More specific questions
- o Ask for recommendations to facilitate improvement.
- o Insert a question in peer assessment form as to what peers would change
- o More time for peers to fill in questionnaires.
- o Have a series of practicum presentations within the HDip.

4. Recommendations

From this action research experiment the following recommendations for practice arise;

1. Scheduling a series of recorded teaching practicums with self-reflection enhances student learning.
2. Provide Instruction to students on feedback skills.
3. Direction on how to complete written feedback forms would extract deeper levels of feedback.
4. Time should be scheduled within a learning module to enable facilitated group reflection.
5. Model of assessment should incorporate a range of assessment methods including peer and self assessment.
6. Introduction of video and written feedback offers the opportunity to shorten teaching practicum times; (Five to eight (5-8) minutes each)

5. *Action Implications of Recommendations/conclusion*

This limited action research exercise has given rise to recommendations pertinent to best adult education practice and highlighted the centrality of reflection to ongoing improvement. Micro teaching practicums within an applied module is a very valuable way of learning. Benton-Kupper[19] notes that "Through the micro-teaching experience students found that there were able to discern strengths and weaknesses in their teaching". The value for student learning and assessment of video recording micro teaching practicums is well established in literature. Benton-Kupper reports student feedback saying "Due to the use of video cassette tape thing I have been able to step away from it all and analyse myself and my abilities". However, the limitations and complications introduced by video recording are also well noted. "I think that the camera made me more nervous than anything…" (Student feedback in Benton-Kupper)

This action research project identified the importance of a briefing,& guiding feedback, self reflection, and self assessment. Ellis (2001 ibid) refers to guidelines for giving feedback drawn from Kadushin (1992). Ellis suggests that constructive criticism needs to be conveyed in such a way that it is perceived as:
- o Timely;
- o Protecting self-esteem;
- o Specific, justified, and non-judgemental;
- o Communicating a concern for the growth and development of the person;
- o Communicating that the feedback is open for discussion;
- o Involving the receiver in finding solutions;
- o Based on students awareness of clear criteria on which performance is to be assessed; and
- o Balancing positive and negative aspects.

This action research experiment identified that those reflecting on their own presentations need a template with clear questions to guide their reflection. In the absence of this the reflection will be more focused on superficial performance. Also, it became evident that the template should be part of a course assessment process to encourage engagement and to deepen self reflection.

Peer observation and feedback are valuable contributors to self reflection and to assessment. This experiment identified that while the strength of peer assessment is that 'people know each other', the weakness is that 'people know each other'. When people know each other there is a tendency to be overly positive and uncritical. Experience has shown that it can be difficult to strike a balance between overly positive and overly negative. Some previous experience of the author has noted that feedback can be unintentionally destructive. It is important to safeguard the vulnerability of the presenter from inappropriate feedback. Detailed and well considered feedback templates are required to extract appropriate peer assessment. An example of such a template is presented by Farris[20].

Group briefing and practice in giving and receiving feedback will also be very valuable as a preparation for giving and receiving feedback. In practice a class workshop on designing appropriate self reflective and peer feedback assessment form templates can be a model of best practice in encouraging self reflection and peer interaction to design feedback forms and assessment criteria.

<u>End</u>

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[19] Benton-Kupper, J. 2001. The Micro-Teaching Experience: Student Perspectives'. Education, 121 (4), pp 830-835.

[20] Farris, R., 1991. Micro Peer Teaching: Organisation And Benefits. Education; Vol. 111, Issue 4, p559-562.