An Action Inquiry to Develop a Marking Guide for Poster Presentations by Undergraduate Nursing Students

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Abstract
The aim of this paper is to explore the process of an action inquiry approach to produce a mark guide for a poster presentation assessment undertaken by undergraduate student nurses. Historically students have failed to engage with the task of poster presentation as they were of the opinion that the marks awarded by tutors failed to reflect the effort or skills acquired in completing the task. To solve this problem firstly the effort and skills required whilst completing the task must be captured. Secondly these must be accurately translated into a robust mark guide. The overall outcome will hopefully be a change in students’ attitude to engaging with poster presentation as an assessment method as they see a robust and accurate mark guide that accurately reflects the task carried out. In order for this change to occur and produce a desirable outcome it is imperative that the students have ownership of the project and are fully involved at every stage and this is why an action research methodology was employed.

The context
To meet changing demands in healthcare provision (Longley et al. 2007) nurse education has changed dramatically in the last three decades. In the 1990’s degree courses began in the U.K (Barton, 1996) in an attempt to produce graduates who are “knowledgeable, competent and better equipped to address future public health challenges” (Davies, 2008 p9) and be professional (Department for Education and Employment 2003) as they use research to deliver evidence-based care (Newton, 1997). It is also suggested that the graduate nurse’s ability to provide more effective care will help reduce future patient mortality (Tourangeau et al, 2006). Commissioners of nurse education are supportive of graduate-only pre-registration nursing programmes (Spouse, 2001) believing that future graduate nurses will be more likely to help meet the quality and leadership agenda within future healthcare organizations. (Gonzalez and Wagenaar, 2005).

My position
As a Nurse Educator I have two professional obligations intrinsically linked to one another. As a lecturer I am professionally bound to help and facilitate students as much as possible to pass academically. At the same time, as a registered nurse I am professionally bound to protect the public safeguarding them from those who do not possess the skills necessary to become a nurse i.e. not “fit for purpose”. This can lead to tension if a student is academically good but poor in practice and vice versa. In order to attempt to ensure graduates meet both academic and professional requirements careful consideration must be paid to the curriculum its delivery and assessment. Unfortunately, professional skills such as integrity, reflection, diplomacy and are difficult to teach and indeed assess in conventional third level courses (Langone, 2007) yet imperative in my opinion. Leitch and Day (2000) argue that the role of emotion in reflection needs attention in teacher practice. I find myself more than professionally concerned regarding some students lack of professional skills but angry and moved to do something about it by actively instigating change in their curriculum to provide a vehicle to allow for the acquisition of these skills.

The rationale for inquiry
The Higher Education Institution in which I work embarked on a new curriculum in 2015. It was developed to meet the national changes discussed and encompasses the revised Standards for Pre-Registration Nurse Education (NMC, 2010). The challenge was to deliver the new curriculum in such a way as to promote deep learning and understanding, and engage students enabling them to link theory to practice to meet the NMC progression points (NMC, 2010). Part of this new curriculum delivery was the introduction of poster presentations as an assessment method. In my module this comprised of a group project to develop and present a health promotion poster with a particular public health/health education focus. The group work provides an opportunity for the students to develop team working skills; research; research presentation and promotion (Chapman, 2006).

Increasingly posters as a method of assessment are being utilised in nurse education (Wharrad et al., 1995, Davis, 2000). Handron (2014, page 17) describes them ‘as an experiential learning activity that stimulates curiosity and interest, encourages exploration and integration of concepts and provides students with a novel way of demonstrating understanding’. Evidence suggests that posters provide an excellent vehicle for developing communication skills, involve students in the assessment process, encourage students to...
research a topic thoroughly, promotes positive attitudes to learning and develops accessing literature skills (Berry and Houston, 2005, Walker, 2005).

There are only a few pieces of research investigating posters as an assessment method, however it suggests that the method helps stimulate a positive attitude to learning (Halligan, 2008), can facilitate the application of the theory of nursing to the practice setting, (Conyers & Ritchie, 2001) helps develop transferable skills which will ultimately serve to enhance care delivery (Bracher et al., 1988) and promotes a “connected teaching” environment that facilitates student learning and engagement which is particularly important in nursing (Rush et al., 2015 pg. 301). Sadly, the majority of this literature is anecdotal consisting of mere reporting or hearsay of students reporting to tutors of the benefits which is not robust research methodology (Parahoo, 2014).

This lack of robust evidence supporting the use of posters as an assessment method prompted the author to evaluate poster presentations as an assessment method from the students’ perspective employing a triangulation approach of focus groups, interview and questionnaire. The study found students felt that although stressful at the time they enjoyed the poster presentation and believed it developed many skills that were beneficial to their development as a nurse such as communication, diplomacy in group tasks, collaborative working, dealing with difficult situations and confrontations as well as and literature critique and presenting skills (McMullan, 2016). However, the study also revealed students’ concerns regarding the subjectivity of the marking and the marking criteria. Participants firmly believed that the marks awarded for the actual physical poster did not capture the effort invested nor learning that had taken place during the process. Ultimately despite believing the process was a legitimate one furnishing them with many skills they had little regard for the marks given comments such as “the marks are a joke”, “how do the tutors even know what to score, they have no idea what we went through”, “the presentation shouldn’t be about the subject, it should be on how we produced it. At least then the tutor could get an idea…!”.

Posters are a valid assessment method as a means to promote learning and equip students with the desired skills (Akister et al., 2010). However, the fundamental problem regarding this assessment is the mismatch between what students are actually learning during the process and what they are being given credit for. A robust marking criteria must be developed which reflects students actual experience and effort for the assessment to be fair and valid and to promote student engagement. It seems obvious that only those that have actually been through the process or are currently involved in the process have true insight (Stringer, 2013). Therefore, an action research methodology is proposed to investigate exactly which skills are acquired during the process of making the poster on which the marking criteria will be formulated by the participants.

**Action Inquiry approach**

Action research often also referred to as practitioner based research (McNiff, 2002) can be a powerful tool for change and improvement. Kurt Lewin one of the founding fathers of action research deliberately intended to change the lives of disadvantaged groups through action rather than just investigation. This combination of action and research has contributed to the attraction of researchers to this paradigm in the educational community (Ferrance, 2000) with an impressive scope as it can be used in almost any setting where a problem involving people tasks or procedures cries out for a solution (Bassey, 1999). As a nurse I am particularly attracted to action research with its underlying characteristics namely its emergent development form, its focus on practical issues, the creation of knowledge in action by Gerrish and Lacey (2010). Furthermore, its links to participation and democracy and its interest in human flourishing (Reason and Bradbury, 2008) echo good nursing principles.

Kemmis (1997) suggest that there are several different types of action research united by a desire for improvement but can be complex and multifaceted by nature and therefore not straightforward. Unsurprisingly, there are several definitions of action research with different conceptions and focus. Hopkins (1985) suggests the combination of action and research renders it to be a “rigorous enquiry which improves practice” (page32). Elliott (1991) and Somekh (1995) both place emphasis on bridging the gap between theory and practice whereas Ebbutt (1985 page 156) and Cohen and Manion (1994 page 186) both refer in their definitions to “examining” and “scientific processes”. Carr and Kemmis (1986 page 162) and McNiff (2002 page 17) place emphasis on the self-reflective enquiry by participants and their writings make it clear to see how there is a massive and inevitable overlap with participatory research with Kapoor and Jordan (2009) arguing that the key feature of both is commitment to change. David (2002) describes how participation breaks the separation of the researcher and the participants so power is equalized. The development of participant voice, authorship and ownership is therefore a cornerstone of action research with several authors using collaborative and or participatory as an adjective in their definitions.

Several authors such as Leitch and Day (2000), Burton and Bartlett (2005) and McNiff (2013) advocate action research in education and as a methodology it has been widely embraced in Nursing (Reason and Bradbury, 2000) with it would seem ever increasing success (Pavlish and Pharris, 2012 and Ingram et al., 2015). With calls for knowledge development in nursing education (Winter, 2001) and concerns about the lack of dissemination of nursing educational knowledge (Smith-Stoner and Molle, 2010) action research would seem to be an ideal methodology to employ to help increase nursing education knowledge (Galuppo et al., 2011) with Gerrish and Lacey (2010, p258) stating that action research can blur the boundaries between education, practice and research. Unfortunately, this does not seem to be the case with limited use in nurse education and no clear and actionable definition for this field (Munn-Giddings et al., 2008). Moch et al. (2016) after a systematic review of the methodologies described over a decade in nurse education concluded there was no clear definition and advises to exercise caution when attempting to embark on a project to utilize and adhere closely to an appropriate model to avoid confusion and false claims of projects truly being action research.

**Models of Inquiry**

There are several ways in which the steps of action research have been analysed (Cohen et al 2011). Lewin (1946) codified the process into planning, acting, observing and reflecting. Later Lewin (1948) acknowledged that the reflecting may lead to a
modification of the original plan or idea however this lack of flexibility in Lewin’s model was its main criticism (McTaggart, 1996). The legacy of Lewin’s work was developed by Kemmis and McTaggart (1981) who included reconnaissance of the field as an imperative part of the process with McKerman (1991) suggesting that Lewin’s model of action research is a series of spirals each of which incorporates a cycle of analysis, reconnaissance, re-conceptualisation of the problem, planning of the intervention etc. McNeill’s model (1995) is a comprehensive step by step process but again is flawed by its lack of focus on reconnaissance. Ebbutt (1985) adds to this the view that feedback between each cycle of action research is important and this is reinforced in the model by Altricher and Gstettner (1993). Zuber-Skerritt (1996) sets the stages into a cycle and incorporates Lewin’s famous force field analysis and change theory into the work. Tripp (2003) also sets out a research cycle which also includes reconnaissance. These cyclical models appeal to me as a scholar and practitioner especially as the change process is so familiar to me in the field of practice of nursing and as reflection and is an integral part of nursing practice (Burnard et al., 2011). I am of the opinion that these cyclical models would be ideal to produce knowledge, however the fundamental aim of action research is to improve practice rather than to produce knowledge (Elliott, 1991). Furthermore, in this particular project there isn’t a single issue which can/could be improved with cycles of action and reflection but three separate yet interlinked phases which will hopefully crescendo to the desired outcome. Therefore, an iterative model rather than a cyclical model would suit and one which has reconnaissance at every stage to produce a distinct outcome, then springboard into the next distinct cycle. Therefore, I have chosen Elliott’s (1991) (see appendix 1) model adapted version of Lewin’s model to frame this inquiry in three cycles.

Ethical considerations

Before embarking, written permission would be requested from the Head of the School of Nursing and Midwifery and from the School Ethics committee. The primary ethical consideration with any research is the commitment of the researcher to engage a “good” practice, be authentic and do no harm (Hannu, 2012). Coghlan and Brannick (2005) write that the fundamental ethical consideration when undertaking an action research project is being at all times critical of the process, self-questioning and wary of the potential pitfalls and criticisms of your project.

Zeni (1998) reminds us that action research is not only qualitative research but insider research. This unique perspective involves authentic relationships between the action researcher and the participants and mindfulness of the researcher to examine potential effects caused by this relationship.

According to its critics the main weakness of qualitative approaches is its interactive nature (Bryman, 2012) arguing that as the researcher is so immersed they could not be objective but rather subjective in selecting or interrupting data leading to anecdotal personal impressions. Furthermore, as the data is so unique to the project it lacks reproducibility and generalisability (Pope and Mays, 2006). Using criteria from one paradigm to assess research in another however is surely misleading. Quantitative and qualitative research are significantly different and therefore the concepts of objectivity, replicability, generalisability, reliability and validity as understood in the quantitative paradigm must be adapted. However, all research must still be evaluated and critiqued to ensure rigour and legitimacy of findings (Waterman et al., 2001).

Until recently most frameworks for conducting critical review were written within the quantitative paradigm, leading to unjustified criticism of qualitative research (Sandelowski, 2002). The criteria used to assess the quality of research ought to “reflect qualitative ideals and goals” (Finlay, 2006). Qualitative researchers devised their own terminologies such as “truth value”, “applicability”, “consistency” and “neutrality” (Schwandt et al., 2007) and developed their own strategies of ensuring rigour by creating an account of method and data which can stand independently so another researcher could analyze the data in the same way thus producing a plausible and coherent explanation of the phenomena under examination (Mays and Pope 2000). Action researchers are increasingly expected to report their methods of analysis in a transparent way in an attempt to ensure rigour therefore improving reliability, validity and credibility/transferability of results (Bashir et al., 2008). Morse (2002) warns that “rigor is not enough”, even when the elements of transparency, validity, reliability, comparison and reflexivity are applied and help to produce credible analysis a skeptical reader might still wonder if the results are just subjective interpretation and warns to risks of generating “thin data” which is shallow and trivial. Another risk with qualitative research is that of under-analysed data with superficial coding, together with little attempt to integrate these into existing theories or to look for connections. Green and Thorogood, (2009). suggest to increase the depth of analysis by interrogating data with colleagues or other qualified academics to review field data termed interrater reliability (Barbour, 2001). Of particular concern in this project is the potential power imbalance between researcher (myself a tutor) and the participants who are students. O’Hanlon (2003) warns that students may feel coerced into participating, or may alter responses or behaviors if they perceive the researcher to be “superior” to them. Parahoo (2014) advises to be mindful of this effect, to discuss it openly and emphasize to participants that confidentiality is assured and that there would be no repercussions regarding anything that may be shared.

The right to confidentiality is one of the cornerstones in the ethical guidelines for research in nursing (ICN, 2003), and further to the principles of voluntary participation and confidentiality, participants must also be assured of the right to privacy and anonymity (Parahoo, 2014). Gaining ethical approval for a study is not enough, it is important to agree a code of ethical practice that will be established with the student participants at the start of the study which allows them control over what change happens, how it is researched and how findings are shared with others (Gerrish and Lacey, 2010). I would use Winter and Munn-Giddings (2001) principles of procedure as a template.

Study Participants

Purposive or judgemental sampling is selected for this study whereby the researcher chooses who to include based on who can provide the necessary data (Patton, 2002). The whole first year group n=368 would be too big and in quantitative research the focus would be on generating a representative sample. In this study the relationship between participants and participants and researcher is imperative (Parahoo, 2006) and therefore I would select my own tutorial group who I would see twice a week as my potential participants. The benefits would include familiarity of
researcher to participants and hopefully a sound trusting relationship and of course the convenience of incorporating the research into already scheduled teaching time therefore there is no inconvenience to participants or extra resources needed. However, as stated there is no pressure to take part, it is entirely voluntary.

**General Planning for Cycle one**

The first stage of Elliott’s model involves identifying initial data and reconnaissance (fact finding and analysis). I have already identified the problem from previous work namely the lack of confidence in students regarding the validity and reliability of poster assessment marking. My previous work highlighted that this lack of confidence in the robustness of the assessment led to students failing to engage with the poster presentation and that sadly this was a widely held view amongst the student body (McMullan, 2016). Brief discussions with colleagues regarding this publication revealed that many were not surprised as they had heard similar complaints from students, and agreed that consulting and involving students to produce their own mark guide would be a good idea. However, these were informal discussions and this stage would have to include formal discussions with colleagues involved in the module. This would be to ascertain reactions to the proposed study and to invite them to become involved directly in the study assisting or by becoming a member of a validation group as recommended by McNiff (2002). Consulting with others at every stage of the action research will provide both support to instill confidence and encouragement (National College for School Leadership, 2005) but also provide critical feedback as well as being a sounding board for plans and ideas (McNiff, 2002). Ethical approval will be sought before participants are recruited. The student participants and I the researcher will meet to discuss the approach to the research and establish a collaborative relationship and ensure the driving force and ownership of the project is coming from the participants. Armstrong and Moore (2004) reminds us that the success of an action research inquiry is rooted in establishing a firm base of collaborative, co-operative working in a non-hierarchical relationship with ground rules of openness honestly and confidentiality established.

**Cycle one**

This involves the first action step following the reconnaissance and planning. This will involve students capturing the skills and efforts they are developing whilst working in groups to develop their posters. The students have 6 weeks to develop their posters and groups often meet in rooms in university or at home. However, a lot of discussions regarding the posters also include online chats on social media messaging apps. The collection of data is a fluid process in qualitative research

(Ravitch and Carl, 2015) and more creative compared to quantitative methods. Group interviews are when the researcher simultaneously gathers data from more than one participant, ranging from opportunistic interviews held with small naturally occurring groups to specially recruited focus groups (Teddlie and Yu, 2007). The strength of observational methods is that they provide data on phenomena such as behaviour as well as people’s accounts of such and can be divided into participant methods where the researcher is present to some extent in the field studied (called fieldwork) and immersing themselves in the daily lives of those studied and non-participant where researchers observe a field without involvement for example using video tapes (Pope and Mays, 2013). Whichever method is used what is imperative is that the data collection method allows the researcher to drill deep into the phenomena under investigation to guarantee that true understanding is gained. In this inquiry I will encourage participants to keep their online conversations and to keep a reflective diary after meetings with peers to work on their posters. In these diaries students should note their feelings both positive and negative, and reflect on their own development as a result (McKernan, 2013). For example, if an encounter lead to a heated discussion did another individual have to intervene and what did you learn from that? Elliott (1991) advocates the use of reflective diaries as they provide valuable introspective self-reflexive analysis as well as superficial fact reporting. There are a number of approaches to analysis including thematic content analysis, framework analysis, narrative analysis and computer aided analysis such as the NVivo 7 software programme (Gale et al, 2013). After the 6 weeks, I would meet with the participants to examine the data to identify themes or core threads that they uncovered in terms of the skills they developed and the difficulties encountered. Following this monitoring and implementation of effects it is imperative that we enter into a period of reconnaissance emphasized by Leitch and Day (2010) who remind us that action initiates reflection, and Elliott (1991) referring to reconnaissance as more than data finding but reflection of the pros and cons and revise the general idea and prepare for cycle two. By the end of this first phase I would like a consensus on the effort put in and the skills acquired by students during the process of producing their poster presentations to proceed to phase or cycle two.

**Cycle 2**

This involves a workshop made up of both student participants and members of the validation group who have experience and knowledge of the university requirements and the module pro forma for assessment. Again, the power imbalance must be carefully addressed at the start of the session with all being reminded that they are all of equal standing in this situation. The members of staff must be forewarned that they are merely facilitators of the session guiding student participants to ensure their proposed ideas stay within university guidelines and requirements, at no time are they to impose their ideas or suggestions to the group. Participants should be reminded that they are co researchers and the importance of their engagement openness and honestly. As principle researcher it is also imperative that during this stage I ensure all voices are heard and that more dominant participants do not bulldoze their ideas forward by ensuring it is a supportive environment in which free and critical discussion can take place (Morton-Cooper, 2000).

In small groups, participants with one staff member in each will discuss and allocate marks for effort and skills acquired while doing the poster presentation based on the data acquired from cycle 1. What marks are allocated is entirely up to the participants but must total and reflect the pro forma for the module. When all the groups have decided, each group will present to the rest their proposed mark guide. A whole group discussion will then be facilitated until a consensus is reached on a proposed mark guide for the poster presentation. In many ways this is the hardest stage to plan for as how long this will take will depend on how varied opinion is and how willing participants are to discuss and compromise. Next will be a further period of reconnaissance to
reflect of the success or failure of the workshop to formulate a working mark guide and to plan for cycle three the utilisation and evaluation of the new mark guide. All markers of poster presentations must be briefed about the new mark guide and ensure that all terminology is explained and to ensure markers are interpreting the mark guide correctly. Ideally this “training” would be carried out with student participants and validation group as ultimately the success of this project hinges on tutor’s willingness to engage with the new mark guide and not adhere to old practice.

Cycle 3

This involves the implementation of the new mark guide and subsequent evaluation of such by the students. Again, this stage starts with careful planning as discussed above before the new mark guide is rolled out ensuring markers are fully informed and clear on the new criteria and are interrupting it correctly. The marking of poster assessments will proceed and usual internal moderation will occur by statistically comparing various tutors scores against one another (Henson, 2001) and against the mean to ensure there is internal consistency. This demonstrates the robustness of the reliability of the guide as an assessment tool (Black and Wiliam, 2002). However, the validity of the guide is what is in question in this situation. Defined by Miller et al (2009) validity is the adequacy and appropriateness of the uses of assessment and the results, in other words validity is the extent to which the assessment measures what it ought to measure (Linn and Baker, 1996). In this context, did the mark guide duly reward the effort and skills acquired during the process of preparing poster presentations? Or rather do the students believe this to be so which was discussed earlier was not the case with the previous mark scheme. In order to evaluate this the third cycle will be a repeat of the study conducted before this action research intervention to compare results. A questionnaire using Likert scale responses asking students to rate their satisfaction with the poster presentation, the fairness of marks and if in their opinion it reflected the efforts they do in will be used. This will be carried out at the time of the module review as part of the module review where responses are gathered using the Personal Response System (a digital response counter) which ensures confidentiality. Consent is assumed by participation as students can choose to respond or not with there being no way to determine who took part and who didn’t. Questions and responses will first be checked and discussed with members of the validation group and student participants from the first two cycles to maximise content validity of the questionnaire as recommended by Parahoo (2006). The responses will be coded and analysed using Statistical Package for the Social Sciences (SPSS) for windows version 19.0 and compared to the pre intervention responses to see if there is a detectable difference. There will also be open ended paper copy questions to gather qualitative data regarding student satisfaction or indeed dissatisfaction with the process of assessment. Data as before will be reflected on and organised into themes by looking for patterns and using software (NVivo 7). This triangulation of data collection is not for proving or confirming success rather to gather rich data to gain deeper understanding and the breadth of opinion on the subject (Denzin, 1989).

Preparing for negative effects and unexpected outcomes

Chevalier and Buckles (2013) warn researchers that although some negative outcomes from action research can be inevitable, careful planning and anticipation of such can minimise the impact. My first concern for this project is regarding the power imbalance. If the student participants cannot see myself or other staff involved as anything other than co researchers and be submissive or fail to air their true opinions and feelings then little will be gained, the project depends on their full engagement and participation. Similarly, of course, staff must be mindful to speak and act as equals with students and not lead or influence discussions in any way. Negative effects from power imbalances can (if predicted and addressed) be minimised with appropriate interventions (Edwards, 2004). My second concern is that of participant expectations and how to manage this but still encourage “blue sky” thinking (Chevalier and Buckles, 2013). For this project to be successful participants must move away from the traditional approach to marking which clearly isn’t effective for poster presentations at the minute. However, it is still a summative assessment in an undergraduate professional course and therefore bound by certain restrictions. This must be managed sensitively so as not to crush enthusiasm yet set boundaries. Immature participants may see this project as an excuse to set an easy pass. In anticipation of this at the outset I would involve students in a discussion around nursing’s professional status. Focusing on integrity and the importance of self-reflection and critical appraisal of practice I would remind participants that they are bound by our code of practice as students of the profession (Langone, 2007).

Report of Outcomes

This study has quantitative and qualitative elements and thus the reporting of outcomes will reflect that. The quantitative aspect will include figures and graphs with reporting of “p” values but more importantly the significance of these. The qualitative components must be reported accurately and honestly ensuring the participants voice is strongly reflected including any negative or disagreements. The report will also include my own reflections as a researcher in terms of what I have learnt and gained from the action inquiry approach and if my interventions on reflection were the best course of action and the correct approach. Honesty regarding if I would change any aspect or any limitations must also be reported as would any potential limitations. We have a student research conference in the school each year and I would anticipate that participants present this project at that.

Limitations of the study

This will be a small study limited to one institution and therefore the generalisability of the findings is of course limited, however this was not the purpose of the project. The aim was to hear the participants voice and to facilitate them to solve the problem of lack of faith in the assessment process. Therefore, how successful the project will be will of course depend on their and their peer’s satisfaction with the mark guide produced for use in this particular situation. The participatory and qualitative aspect of this project may increase the likelihood of bias in the researcher which must be acknowledged and reported on (Parahoo, 2006)

Implications for Nurse Education

The mark guide produced from this proposed action research inquiry is in many ways a secondary outcome of this project. I
hope the student participants gain a great deal of knowledge about the research process from being active members and that generally the students feel more involved in their degree and learn professional skills such as diplomacy and communication. Similarly, I would hope that tutors will be enlightened to the importance of the student voice when it comes to other aspects of education such as upcoming curriculum review. Long term I hope this will help with student engagement and satisfaction with the course. Writing about and learning about action research has definitely made me reflect on my practice as an educator and I hope to engage in other projects of this nature including peer marking and peer mentorship projects.

References

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Appendix 1

[Diagram showing a flowchart with cycles labeled as CYCLE 1, CYCLE 2, and CYCLE 3. Each cycle includes steps such as Identifying Initial Data, Reconnaissance, General Plan, Action Steps, Implement, Monitor Implementation and Effects, 'Reconnaissance' (explain any failure to implement and effect), Revise General Idea, Amended Plan, Action Steps, Implement next Action Steps.]