



The experience of critiquing published research: Learning from the student and researcher perspective

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ABSTRACT

This paper commences with affirmation of the importance of research critique within academic programmes of study, and the context of this skill within the nursing profession. Judie (student) shares an experience from a Professional Doctorate in Education (EdD) assignment that involved selecting and critiquing a piece of published research. “The qualities of an effective mentor” (Gray and Smith, 2000) was critiqued using the Critical Appraisal Skills Programme (CASP, 2006) framework. Morag was the researcher and co-author (Gray and Smith, 2000) and was subsequently contacted by Judie for the purposes of validating her critique assignment. On the tenth anniversary since publication of her PhD research findings Morag reflects on the original article in the light of Judie’s critique and shares evaluative comments. Some of the assignment critique is validated by Morag, whilst some of the evaluation demonstrates unreliability of critique shown by Judie. Discussion surrounding sufficiency of research critique through systematic examination of a published article, versus an original research report such as a thesis ensues. The student and researcher/author reveal their learning from this collaborative experience and conclude with recommendations for: setting critique assignments; authors publishing their research findings; and students undertaking critique assignments.

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Introduction

The aim of this paper is to share the outcome of the dialogue between an EdD student (Judie) and the researcher/author (Morag) of the paper the student chose to critique as part of her studies. The learning from both parties is shared and recommendations to enhance the assessment process involving critical review of the literature undertaken by students at any level are presented.

Critiquing research

Three key elements feature in a systematic and thorough research critique. These are critical thinking, the use of a systematic evaluative framework, and the rules of rigour agreed by the wider research community (Brown and Libberton, 2007). Critical thinking and analysis prevents students from passively accepting published

research. Instead students ask: Is the evidence presented good enough to base practice on?

Students critique within their own world view of practice, with their own knowledge and work experiences in mind. The epistemology underlying critical thinking is the rejection of relativism and recognition that rational justification, though distinct from truth, is a fallible indicator of it (Bailin and Siegel, 2003). Students apply theory to practice by thoroughly considering their current practice whilst analysing the theory of the research. Furthermore they apply practice to theory by using their experience for a practical examination of the research knowledge presented. A central task involves assessment of the ‘probative strength of reasons’ (Bailin and Siegel, 2003, p.182) using subject specific knowledge within the research process and findings. The student applies rationale from their own experience and other literature to present a strong case to justify their critical opinion.

In appraising the rigour of research students may follow an evaluative framework such as CASP (2006) to analyse the value of the research in relation to the methodological rigour and strength of the evidence. The advantage of using a framework is that a systematic and thorough evaluation is enabled. The evaluation aims to establish validity, trustworthiness (Rolf, 2006) and limitations of the research methodology, methods, results, findings and

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transferability of theory into practice. Through critical analysis students learn not to apply research to practice until it is shown to have been rigorously undertaken, robust in its findings and relevant for application to their own work. In this way students use the skill of research critique and critical analysis to consider valid research for feasible changes to positively develop their own practice. Overall critical appraisal may confirm, challenge, or extend the research.

Importance of critique to the nursing community

Nursing courses at pre and post registration are validated at degree and masters levels and assessment at these levels requires students to be competent as critical thinkers (Fowler, 2007). This is assessed by how the student demonstrates this in their practice work and in their academic writing. In the workplace students use suitable theory for their nursing practice and critically analyse clinical problems, incidents and issues for change. Competency in critical thinking is assessed by a qualified practice based mentor (NMC, 2008).

Academic work may be set that involves the student selecting and critiquing a primary research study (Duffy et al., 2009) or they may undertake comparative analysis where principles of one piece of literature are compared with another (Fowler, 2007). Students may analyse published research currently used in nursing practice, or analyse research for potential use. In assignments students reflect on the relationships between the research critiqued, other literature and their own experiences of nursing practice. Competency of application, analysis and ability to think independently (Fowler, 2007) is assessed at the university in the level and style of writing submitted (Knowles and McGloin, 2007).

A worked example of student critique and the issues encountered

In this article the importance of selecting a piece of primary published research for critique (Gray and Smith, 2000) that meets the criteria for the students (Judie's) assignment set will be shown. This involves a level of interest and relevance for Judie's own practice and learning experience. An evaluative framework lends itself to enhance the systematic structure and forms a comprehensive checklist of critical elements to be considered, and a suitable tool for this purpose is demonstrably selected. Once the critique for assignment purposes is completed by the student reflection on the experience commences. Questions of validity of critique findings led to Judie making contact with the researcher/author (Morag) and evaluative dialogue regarding the critique ensued. Cutcliffe and Ward (2003) suggested that critically analysing research studies helps facilitate debate and provide factual knowledge and evidence on issues of interest. The collaborative experience resulted in new insight for the researcher/author and student alike. The analytical debate led to creative recommendations for the future practice. These are for educationalists setting assignment questions on critique, for researchers publishing their research and for students who critique the published research.

The experience

Selecting published research

To critique research a student must initially identify a piece of research on a topic that they are interested in, that is relevant to their own experiences of practice and meets the criteria specified in the set assignment. A substantial investment of personal time is involved in undertaking a thorough assignment, so a stimulating subject of professional interest is advised. Subject specific knowledge is essential for critical thinking as "*thinking itself is always tied to a particular content and subject*" (Bailin and Siegel, 2003, p.184). So the student is wise to choose a topic that they have some

existing knowledge and experience of. The assignment involved literature searching and much reading on the chosen topic which is a good use of time and efforts as there is '*dichotomy between critical thinking and creative thinking*' (Bailin and Siegel, 2003, p.187). The students' critical thinking underpinned by the literature can be invested to inform their future practice.

Where choices are to be made between several researchers studies on the same topic, the student may like to select one that uses a particular research methodology that they would like to learn more about. It is noteworthy that critiquing a research publication using an evaluative framework will necessitate familiarity with the methodology and methods used by the researchers. Where the student is not familiar with these, much can be learnt through the processes of systematic evaluation. With all these issues in mind the student is equipped to make a good choice of research study to critique and enrich their own learning needs.

Judie used the above criteria to select a piece of published research for a critique assignment underpinned with the following rationale. As a nurse educationalist Judie is engaged with pre-registration nursing studies on placements and with continuing professional development in teaching and assessing mentors. She chose to critique research on the topic of mentorship. As an EdD student with forthcoming doctoral research on the students' experience of mentorship this type of research within mentorship was selected. Judie considered possible methodology for her own forthcoming research study and therefore sourced a study that had used grounded theory, this being one of particular interest. The research article was then cross checked for a match that met the specific assignment criteria, and thus it was affirmed as a good choice for critique.

Evaluation tool used

In addition to critical analysis of subject specific knowledge, generalist critical thinking is used as "*it simply does not follow that nothing general can be said about the activity of thinking*" (Bailin and Siegel, 2003, p.184). For generalist '*thinking that meets relevant criteria*' (Bailin and Siegel, 2003, p.183) an evaluation tool can be used. This is a framework that serves as a checklist to guide the student through a series of learning experiences focused on the research published. This process should enable a balanced and constructive view of the research study.

There are wide ranges of evaluation tools available in the research text books (Brown and Libberton, 2007) and students may be recommended or given one for use in their assignment. Alternatively they may need to consider the advantages and disadvantages of the available frameworks and make a selection of a pertinent one for use. For the purposes of this assignment Judie selected CASP (2006) as a systematic tool that presents ten general questions (with prompts) that deal broadly with the questions and assumptions of rigour, credibility and relevance that characterise qualitative research. It was developed by the Public Health Resource Unit (England) for the NHS (National Health Service) and is therefore much suited to the purposes of critiquing health related research.

Contact with researcher/author

Critique has the potential to '*foster competition rather than community*' (Janse van Rensburg and Hughes, 1998, p.12) and Judie sought the latter and aimed to demonstrate respect for her fellow nursing professionals (Gray and Smith, 2000) as researchers for their own published enquiries and deliberations (Bailin et al. cited in Bailin and Siegel, 2003). The critical approach chosen by Judie was one of valuing good reasoning and being disposed to seek reasons, to assess them, and to govern beliefs and actions on the basis of such assessment (Bailin and Siegel, 2003). Thus Judie's

disposition throughout the critique was considered as open, fair, and independent-mindedness with an enquiring attitude.

However on receipt of a pass grade Judie re-read her critique and began to reflect on the processes and outcomes of the experience. Whilst analysing the exceptional marks awarded against the university assignment marking grid she started to question the actual validity of her critical opinion on the research study published. This enquiring attitude led her to contact Morag to seek a piece of ten year anniversary collaborative work between student and researcher/author for subsequent publication. This affirmed interest led to Morag evaluating Judie's critique.

Critique and evaluation

As a researcher Morag undertook a three year longitudinal study of pre-registration nursing students [$n = 17$] at a large Scottish University for her PhD. Students were the third cohort of the new Project 2000 curriculum of Diploma of Higher Education in Nursing. The aim of the grounded theory study was explore the effects of mentorship and supernumerary status on students undertaking their pre-registration programme. Ten students were individually interviewed on five occasions during their programme and kept a diary for each of their twelve placements. A further seven students volunteered to participate by diary only. Data were collected and analysed using the Constant Comparative Method associated with Grounded Theory (Gray and Smith, 2000).

To illustrate the emerging issues from the critique both good/upheld and poor/unsubstantiated examples are provided of part of the discourse between Judie and Morag to illustrate key learning points.

Example from Judie's assignment (good/upheld critique)

What was the goal of the research? (CASP, 2006)

Glaser (1992) warns that if grounded theorists are too specific about the area of their research at its outset, this will lead to emergent issues being suppressed, whilst a question allows flexibility for freedom to explore the phenomenon in depth and for actual phenomenon to be identified in the first instance (Strauss and Corbin, 1990). The researchers have not set a question but rather three areas for research are presented. In the title "the qualities of an effective mentor", in the opening paragraph "to discover the effect(s) of mentorship on student nurses", and in the methods section "capture changes in the students' perspective of their mentor over time" (Gray and Smith, 2000).

Arguably the design of the research and the focus of the research questions will be very different to answer on each of the above. To illustrate this, if the goal were to examine "the qualities of an effective mentor" students may be asked to "define the key characteristics and qualities of a good mentor" during and after each of their twelve placement experiences working with each different mentor. If the goal were to "discover the effect(s) of mentorship on student nurses" students could be interviewed after their sixth placement (at the end of common foundation programme) and twelfth placement (at the end of their branch programme) and be asked to "give examples of mentorship input on placements that actually changed your practice".

If the goal were to examine "changes in the students' perspective of their mentor over time" students may be asked for 'your own views on mentors as role models' Perhaps this could be recorded after their first placement, at the end of their common foundation programme (after six placements) and at the end of their branch programme (after all twelve placements). It must be noted that the students have a different mentor for each of their placements, "the

first six comprise of mental health, learning disability, care of children, adult, care of elderly and obstetrics". The mentors were staff specialising in these six particular individual fields of nursing and they would not work between the different specialities given. The student's perspective of a mentor as implied by "changes in the students' perspective of their mentor over time" can therefore only be researched over the duration of any one short placement experienced rather than the entire three year course. It must be acknowledged that each mentors perspective of their role for students on the new P2K curriculum (UKCC, 1986) may differ. Therefore the students' own individual perspective of their mentors will vary according to the experience they have with each different mentor and may not bear any relation to the point of the programme they are at or therefore the progression of time.

For the goal of the research to be addressed the design involves a clearer articulation of the question (Janse van Rensburg and Hughes, 1998). The three areas for research change the focus of questions to be asked and change the design of the periodicals of when it is to be asked throughout the longitudinal study. It is not clear what the researchers' aim, goal and research question were other than an eclectic mix of all of the above. Were this research to be approved by a current research ethics committee a focused question with rationale on research design would likely be required (Lester and Lester, 2009).

Morag's evaluation

The above points are well made in respect to the information contained in the article (Gray and Smith, 2000). It should be noted however that this article was published from a 90,000 word thesis so the researcher had to make difficult choices as to what to include in order to adhere to the manuscript word allowance.

The aims articulated in Gray (1997) thesis were threefold:

1. To explore the effects of supernumerary status on student nurses undertaking a three year higher education diploma course in adult nursing.
2. To explore the effects of mentorship on student nurses undertaking a three year higher education diploma course in adult nursing.
3. To generate either a substantive or formal theory in relation to the above two aims.

The research question in a grounded theory study is refined as the study progresses (Strauss and Corbin, 1990; Streubert and Carpenter, 1999; Holloway and Wheeler, 2010). At the commencement of this study, the research question was "to investigate the effects of supernumerary status and mentorship on student nurses following the 1992 HE Diploma in Nursing". As data were collected and analysed, the research question became more focused to: what are the effects of supernumerary status and mentorship on the professional socialisation of student?

Example from Judie's assignment (poor/unsubstantiated demonstrating where critique of article is insufficient and thesis is required)

Was the recruitment strategy appropriate to the aims of the study? (CASP, 2006)

Fain (2004) highlights the tendency for accepting more readily results from larger samples, when in qualitative research, small samples are acceptable (Thompson, 1999) and indicate the views of the particular population of interest and phenomenon under enquiry (Masters, 2005). The sample size [$n = 17$] (Gray and Smith, 2000) is suitable for qualitative study designs as the emphasis is on

the exploration of certain beliefs or issues of interest rather than statistical relevance (Lobiondo-Wood and Haber, 2010).

The research participants were a non-probability convenience sample (Higginbottom, 2002) from the same cohort on a three year programme and were the third cohort of students to experience Dip HE course enrolled at one of the researchers educational establishments. It is not revealed why the third cohort of students was purposefully selected (Coyne, 1997) or whether this has any relevance. The researchers explain that the students volunteered but do not elaborate on why seven volunteered to participate by diary only. Furthermore it's not known whether the entire cohort participated, if $n = 17$ is some, the proportion is not given and it is not explained why some students chose not to take part or were excluded (Sandelowski and Barroso, 2003).

Morag's evaluation

Again these issues were addressed fully in the thesis (Gray, 1997). The third cohort was deliberately chosen to avoid the teething problems inherent in any new course (a criticism of other studies). When asked for volunteers more students wanted to take part than were required for the interview and diary data collection. In order not to disappoint the extra 7 students they were asked to participate by diary only and they agreed.

For member validation, at the end of the study, Gray (1997) used a diary that she had written using quotes and themes to illustrate the journey of a student from start to completion of the course. The researcher's diary (illustrating her understanding of their three year journey) was distributed to the participants and the remainder of their cohort at the same time. This was to prevent the possible bias that may have occurred if participants had been given the prepared diary earlier than the rest of their peer group. There were 53 diaries distributed and all were returned giving a 100% response rate. This is probably attributed to the fact that students were asked to complete the diary, independently, in class time. It was emphasised that there was no obligation to participate. Those not wishing to participate were free to leave the classroom. Informed consent was assumed to have been given if the completed diary was returned.

The same diary, with minor modifications made to reflect their own specific course terminology, was distributed to another HE in Nursing Diploma students in another institution. These students were at the same point in their course as the participants' group. Fifty-five diaries were distributed and a 100% response rate was achieved. This probably attributed to the fact that students were asked to complete the diary, independently, in class time. Again there was no obligation to participate. Overall there was an 83% agreement with the diary from participants and their peer group, i.e., member validation. There was an overall 77% agreement obtained from students in the other College of Nursing & Midwifery, i.e., outside validation.

Findings

Problems/issues raised

The above examples only provide a snapshot of the dialogue between student and researcher/author. Overall issues requiring clarification or justification related to the literature reviewed and critiqued; the sample size and aspects of the methodology used; inclusion of in-vivo quotes and theory generation.

Morag initially felt rather defensive but soon realised that trying to disseminate one aspect of the results from a PhD thesis into an article led to the need to omit detail which Judie rightly included in her critique and it was this realisation that led to the decision to write this paper.

Learning from this experience (student)

Judie considered that undertaking the assignment fulfilled her aims of using both specific and creative thinking and deepened her knowledge of grounded theory research methodology and process. Critique through use of the CASP (2006) framework honed skills of systematic enquiring attitude and broadened literature searching skills in search of rationale in support of analytic, innovative and evaluative opinion. Overall it was a demanding but enjoyable experience that was essentially an academic novelty in questioning assumptions, breaking the rules, and rearranging the elements (Bailin and Siegel, 2003).

Furthermore on contacting the author and sharing the critique Judie was enlightened by Morag's evaluative feedback. It was an enriching experience to learn that the critique of a published research article is essentially a limited critique of an author's research bound by publisher's requirements. To this end it is questionable whether respect for a researcher/authors work can be shown through critique of their publication. To show respect for Gray and Smith (2000) work a critique of Gray (1997) thesis rather than the journal publication is necessary.

Learning from this experience (researcher)

Morag realised that although part of many critique guidelines is to consider the researchers' experience to undertake the research (Aveyard, 2010; Holland and Rees, 2010), rarely do they advise the person conducting the review to consider if the research being reported is part of a wider study and if so to communicate with the author(s) at an early stage of the review so that they can gain access to the more detailed report from which the content of the article has been drawn from. On completion of research authors typically make difficult decisions to omit some detail due to the word limit of the journal although this led to a very worthwhile dialogue between us. On reflection the article could have emphasised that only one aspect of the research was the focus and that further detail could be obtained from the thesis (Gray, 1997).

Conclusion and recommendations

In conclusion there are a number of learning points that we would like to stress. The assessment task of critiquing a journal article is a very valuable experience for students this is enriched by the student engaging in a dialogue with the researcher/author. In this case the dialogue was extremely valuable to both parties. Through working together we offer the following recommendations for inclusion in critiquing research assessment guidelines:

- Student(s) should be aware that a research-based article in a peer-reviewed journal will most likely to have been derived from a larger research report and as such some salient material may have been omitted to adhere to the journal word limit.
- Prior to commencing the critical review, student(s) should also search the literature for other articles by the same author as this can provide a more holistic picture of their research activity.
- Prior to the submission of their critique assessment, student(s) should contact the researcher/author if the chosen article is part of a wider study or reporting an aspect of research from a PhD.
- Student(s) should also be required to include a reflective account of their learning regarding the benefits and drawbacks (if any) of their dialogue with the original author(s). This should serve to enhance the student's understanding of both the critical analysis process but also increase their awareness of

the merit of the decisions of the authors when submitting their manuscript for publication.

- Researchers writing from their doctoral study are advised to present the reader with sufficient detail in a concise and logical manner to facilitate their understanding. Although the article in question was blind peer-reviewed prior to publication, it would be wise to also engage a critical friend in providing feedback on the manuscript.

Conflict of interest statement

The authors declare no financial and personal relationships with other people or organisations that could inappropriately influence (bias) their work.

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