

## **Fostering Confidence in Critical Thinking and Research Appraisal Skills through Journal Club Participation: An Action Research Study**

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### **Abstract**

Evidence based nursing is an essential element of modern nursing practice. Nurses require an understanding of research appraisal and critical thinking skills. However, evidence suggests that many nurses lack confidence in these skills. Lecturer observation of post-registration nurses undertaking a 'top-up' degree corroborated this and identified weaknesses in research utilisation skills. As a result a single round of an action research model was undertaken. This research aimed to explore the views of these nurses on the impact of the journal club on perceived confidence in appraising and utilising research within the academic environment. Seven undergraduate post-registration intensive care nurses participated in the study during 2014. Focus groups were used to collect data pre and post the journal club programme. Data were analysed using thematic and descriptive data analysis. As a result of the programme, participants reported an increase in confidence following completion of the journal club programme. This study identifies that in this context, participation in a journal club programme

improves the confidence of undergraduate post-registration nurses' skills in engaging with clinical research.

### **Introduction**

Registered nurses are expected to utilise the best available scientific evidence in order to deliver high quality direct patient care. This principle forms the basis of evidence-based practice, which is a central feature of modern professional nursing (Laaksonen, Palтта, Von Schantz, et al, 2013). Research appraisal and critical thinking skills form an integral aspect of evidence-based nursing (EBN) and are the skills necessary to allow nurses to evaluate research and to decide upon its suitability for implementation into practice (Sackett, Strauss, Richardson, et al, 2000). These skills are important because nursing practices are changing rapidly and practicing nurses must be able to read and understand the latest evidence to establish whether a piece of research is valid and in turn useful to their practice. Despite the importance placed upon EBN, the literature suggests that nurses feel they lack confidence in their abilities to access, appraise and utilise research to inform their practice (Pravikoff, Tanner, Pierce, et al, 2005; Thompson, McCoughan, Cullum, et al, 2001). This is further compounded by the fact that many nurses do not believe that nursing is an academic profession and view research as an area far removed from care delivery (Friberg & Dahlborg Lyckhage, 2013).

The role of the lecturer in supporting and developing the critical thinking and research appraisal skills of students is well documented, and it is widely acknowledged that nursing degrees should prepare nurses for implementing EBN (Salminen, Stolt, Saarikoski et al, 2010). It was through this supportive role that the concept of implementing a journal club was developed. Following my experiences of running an undergraduate degree in Intensive Care Nursing in the preceding academic year it was clear that students lacked confidence in research utilisation and critical appraisal skills, which was evidenced in both oral presentations and written work. As a result I sought to provide a forum to allow students to discuss and appraise research in the University setting. This also allowed for feedback and coaching in research-related activities to the students. There are multiple variations of journal clubs with various goals; however the central premise is for colleagues to meet and discuss scientific papers relating to their field of practice (Rich, 2006). This article discusses and examines the outcomes of an action research project which developed a journal club in order to improve research appraisal and critical thinking skills in post-registration nurses undertaking an undergraduate specialist nursing degree.

### **Background**

The primary goal of a journal club is to act as a conduit for sharing the latest research with peers in an attempt to improve knowledge and to improve patient outcome (Bilodeau, Pepin, & St-Louis, 2012; Costello, 2011), through dialogue and reading (Rogers, 2009). Various forms of journal club exist with the focus directed towards addressing locally identified training needs (Bilodeau et al., 2012). They are common in some professional fields such as medicine and can be seen in many postgraduate medical programs, however they are sporadic within the field of nursing (Camble-Flemming, Catania, & Courtney, 2009). Successful journal clubs typically consist of similar core processes, such as regular meetings at convenient times, mandatory attendance, a well-defined purpose, identified incentives and the presence of a co-ordinator to manage and disseminate articles (Deenadayalan, Grimmer-Somers, Prior, & et al, 2008).

Journal clubs create a 'haven' for participants to bridge the gap between nurse and researcher and to reflect on research and its potential impact on clinical practice (Bilodeau et al., 2012).

Anecdotal reports suggest that journal clubs may improve a participant's ability to read and critique research (Steebeck, Edgecombe, Durling, et al, 2009). It is also suggested that participants who regularly attend a journal club report increased confidence and become increasingly motivated to read research papers (Milinkovic, Field & Agustin, 2008). Given the wider context of the identified weaknesses in research appraisal skills, the goal of this project was to improve these EBN core skills and to improve the confidence of students in engaging with the process.

### **Aim**

The aim of this study was to explore the views of post-registration nurses of the impact of the implementation of a journal club as part of an undergraduate intensive care nursing degree, on perceived confidence in appraising and utilising research within the academic environment.

### **Methods**

This study adopted an interpretive action research strategy to gain perspectives on the experiences and impact of implementing a journal club into an undergraduate degree program. Action research is defined as a systematic process of enquiry, reflection and action undertaken to understand, evaluate and change an area of one's professional practice in order to improve it (Costello, 2011). There are various permutations of action research models and their use in education research is well established within the academic literature (Costello, 2011). The rationale for choosing action research as the research method in this study was because it facilitates knowledge generation and generation of solutions to practical problems (Costello, 2011).

The organisation of this action research study utilised the 4-stage cyclical, Norton action research model. This model suggests that the researcher firstly, observes an area requiring improvement, secondly, plans a course of action which includes an element of change, thirdly, implements that change and lastly reflects upon the process (Norton, 2009). This process may be undertaken many times before the solution to the initially observed phenomenon is sufficiently improved (Costello, 2011). In this modest study, only one action research cycle was undertaken. The context for action was an undergraduate degree run by the Department of Clinical Education and Leadership, at a large University in Southern England, UK. One Senior Lecturer and seven students participated in the study between February and May 2014. The author led the study and in collaboration with the students, a journal club was developed.

The journal club was developed as a teaching programme during the planning phase of the action research cycle. The overall aim was to support students in learning the principles of evidence-based practice. Acknowledging the findings from Deenadayalan et al's (2008) work, it was agreed that the journal club would become a mandatory feature in the undergraduate degree in Intensive Care Nursing, formatively assessed by both lecturer and peers. The meetings were scheduled for the first hour of each contact day during the academic unit. The format of the journal club was developed as a problem-based learning episode presented by a student. This allowed students the flexibility to identify an area of concern from their area of practice and to then undertake a comprehensive literature search to identify suitable evidence to present to the group (Deenadayalan et al., 2008). The content of the presentation was agreed to include a critical appraisal of a research paper with an aim of determining trustworthy research evidence. Following this short presentation a group discussion was scheduled to enable further dialogue about the presenter's findings and application to practice. To assist the students in developing their journal club presentation, a comprehensive handbook was developed, which guided the student through the process from clinical encounter to presentation. An example agenda of the journal club can be found in Table 1.

Time	Item	Lead
5 minutes	Welcome and Introductions	Co-ordinator
25 minutes	Journal club presentation	Student
25 minutes	Open discussion	Group
5 minutes	Identifies next presenter, summarises meeting, draws meeting to a close	Co-ordinator

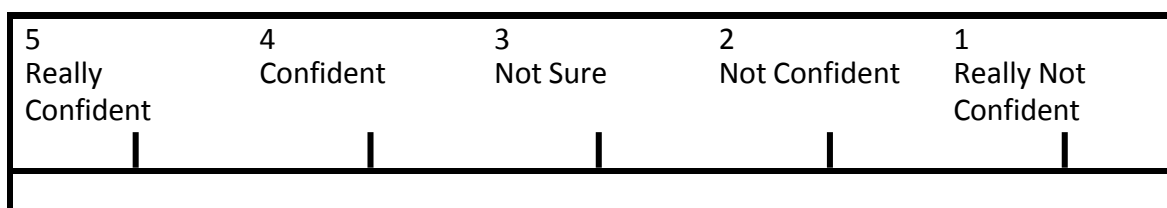
**Table 1. Example Journal Club Agenda**

### Ethical Considerations

Due regard to ethical considerations is critical in action research studies as it is in any other form of research (Costello, 2011; Parahoo, 2014). Prior to conducting this research, the study was presented for approval to the ethics committee of the University of Bedfordshire. The four underpinning principles of beneficence, non-maleficence, respect for autonomy and justice were maintained throughout this study. All participants were supplied with written information leaflets providing background information to the study and detailing their right to withdraw from the study at any time without requirement for explanation and assurances of anonymity. Written consent was obtained from each participant prior to his or her participation in the study.

### Data Collection and Analysis

Two focus group discussions including all seven students were conducted to establish their beliefs regarding the effectiveness of the journal club in developing confidence in appraising and utilising research within both the academic and clinical environment. Each focus group lasted thirty minutes. The first focus group was held at the start of the unit prior to commencing the journal club; the second was held on the last contact day of the unit. During the first focus group, students were asked how they felt about identifying, selecting and appraising research papers. Each student was also asked to complete a short questionnaire, which included questions pertaining to demographics, and to what extent they rated their perceived confidence in research appraisal and critical thinking skills on a 5-point Likert scale (1 = really not confident to 5 = really confident). See Figure 1.



**Figure 1. 5-Point Likert Scale**

In addition to the questions posed in the first discussion, the students in the second focus group were also asked to comment on what they felt worked well within the journal club and what they felt could be improved. Each focus group was digitally recorded and professionally transcribed. The transcripts were then shared with the students to confirm accuracy and to reduce the potential discord between what was said and what was reported (Heikkinen, Huttunen, & Syrjala, 2007). Qualitative data collected during each focus group was subjected to content analysis inspired by the Burnard model (Burnard, 1991). The aim of which was to create a systematic and thorough representation of the meanings and views expressed by the participants. Simple statistical analysis of the descriptive data, including percentage and mean averages, derived from the Likert scale was also undertaken.

## Results

A purposive sample of seven students who were enrolled onto an undergraduate post-registration nursing degree was invited to participate in the study by personal invitation in February 2014. The response rate was 100% and all students consented to participate in the study. All students were female (100%) with a mean age of 32.8 years. All participants were registered adult nurses working in an intensive care unit in the UK. The mean length of time qualified as a registered nurse was 7.3 years, and the mean length of time working in intensive care was 5.2 years. Each participant held a university diploma. Seven journal club meetings, each lasting for one hour, were held at the start of each contact day as part of an academic unit of study. All participants attended all seven journal club meetings.

## Initial thoughts

Analysis of the data from the first focus group acknowledged a wide and varying level of confidence amongst the students in terms of how they felt about accessing, appraising and utilising evidence. Students reported that they felt largely confident in the core principles of EBN.

*'I feel pretty sure I can get access to the right evidence... understanding it is another matter. I guess you just have to read it'*

(Student 7)

Participants also acknowledged some limitations in their abilities to access appropriate evidence. It was reported that further training in some of the key skills such as literature searching, selecting appropriate evidence, research appraisal and critical thinking skills might be required. This was cited to be a result of limited training in this area during pre-registration studies.

*'I think I could do with some teaching, to teach me how to do it, I didn't really do it in pre-reg'*

(Student 3)

Others reported that they did not undertake the traditional method of searching for research. Students in the study reported using Internet search engines in a 'hit and miss' fashion to identify suitable sources of information.

*'if I'm being honest, I only really ever googled the stuff I needed, that or I look in a book or the journal I subscribe to. I don't use the library here because I don't know how to use it'*

(Student 1)

The first focus group identified mixed feelings about undertaking the journal club during the degree programme. Generally the concept was well received and believed to be a 'good idea'. Students felt strongly that by participating in the journal club, their ability to identify and process evidence would benefit them as clinical nurses, but also that it would improve their academic work.

*'I think it's a good idea. I think it will really help in my studies, erm, especially with helping me to get better at understanding research and how I can use it at work'*

(Student 2)

Others reported that they were happy to take the advice of the lecturer and did not have an opinion either way.

*'If you think it will work I think we should do it, but to be honest I'm not sure'*  
(Student 4)

Other participants showed concern about an increase in workload and how it may affect their abilities to complete the course successfully, especially given the demands of completing the course with competing commitments such as family time and work.

*'it sounds like a good idea, but won't it give us too much work to do? I'm worried that I won't be able to do it all, cause of the kids and work, you know'*  
(Student 5)

### **Concluding thoughts**

In the concluding focus group the students reported mixed feelings about the suitability of the journal club as an educational tool. Overall the students reported a positive experience of the journal club, and revealed that by undertaking the programme they have increased confidence in research based skills.

*'the whole thing has really helped me to get better with research. I mean I am actually not afraid to search for it, read it, critically, and to see if I can use it at work'*  
(Student 6)

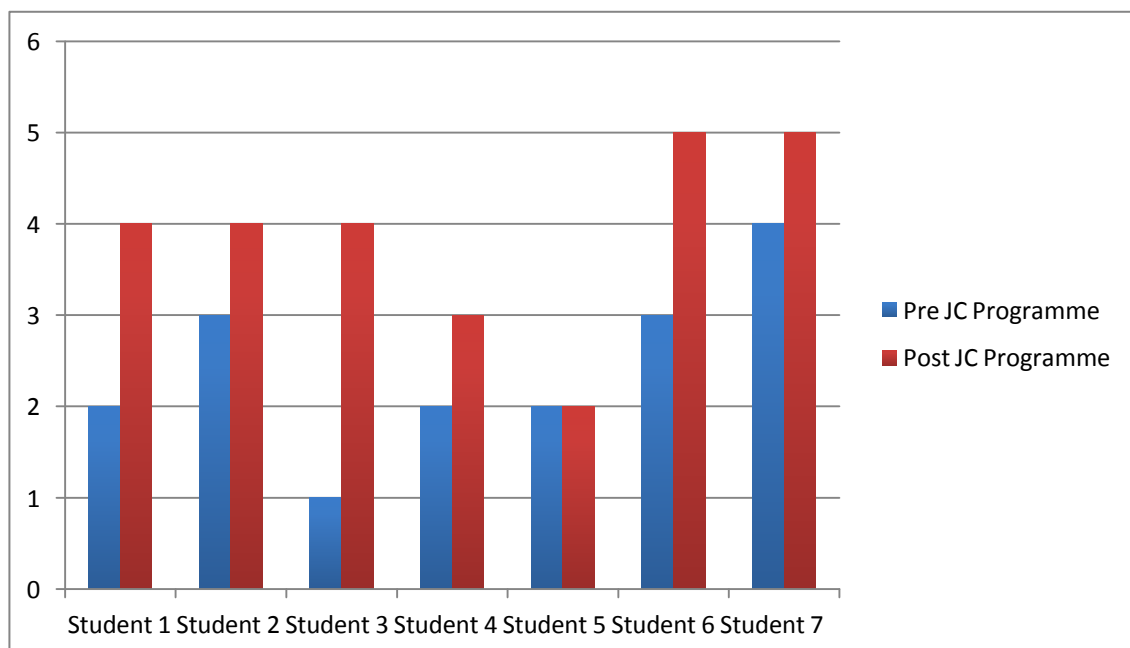
*'I'm kinda not afraid of it [research] because we have used so much of it, it's kinda, you know, second nature'*  
(Student 3)

One student reported that they did not recognise any benefits in undertaking the journal club programme. It was reported that historical methods of didactic lectures may be more suitable methods of educational delivery. It was also identified that the time required to prepare and deliver a journal club may well impact on other aspects of the course.

*'I just don't see the point in the journal club, I think we should spend more time learning and being taught by you, I mean that's what we're supposed to do'*  
(Student 5)

### **Confidence rating**

During the first focus group students rated their perceived confidence in handling research with specific focus upon appraisal and critical thinking skills. 14% (n=1) rated themselves to be 'really not confident', 43% (n=3) stated they were 'not confident', and 29% (n=2) stated they were 'not sure'. One participant (14%) stated they were 'confident' in research handling. After completing all seven, journal club meetings, each student was asked again to rate their perceived confidence in the same areas. No candidates rated themselves as 'really not confident'. 29% (n=2) stated they were 'really confident', 43% (n=3) were 'confident', 14% (n=1) was 'unsure' and 14% (n=1) remained 'not confident'. In 86% (n=6) students reported an increase in perceived confidence in handling research by at least one point on the Likert scale. No participants reported a reduced confidence following the journal club programme. See Table 2.



**Table 2. Results of student self-rating exercise in confidence of research handling before and after completing the journal club programme.**

### Reflections

In the final focus group students were also asked to consider and discuss what went well during the journal club programme. The common theme to emerge was that overall most students were content with the current format. It was acknowledged that because the programme consisted of peer and lecturer formative feedback, students had an increased desire to 'do well' in front of peers. Because the journal club was also mandated, students also expressed that they felt compelled to undertake the work necessary prior to the journal club. This was considered to be a positive motivator by the students, ensuring engagement with the program.

*'I liked it [the journal club], it forced me, in a good way, to think, like, get involved with it. I wouldn't have looked at a single bit of research if we didn't have to for this'*  
(Student 1)

The use of a structured tool, in the format of a journal club handbook was deemed to be strength of the journal club. The use of such a tool was highly commended and recommended for future use.

*'I really liked the fact that I could use the handbook you made to help me, kinda guide me. You definitely need to keep using that'*  
(Student 3)

Students were also asked to reflect upon what did not work well during the journal club programme and to identify possible solutions. Limited feedback in this area was provided. Students expressed support for the role of the journal club and suggested integrating it further into the undergraduate degree. It was identified by one student that it may be beneficial to have articles selected by the lecturer based upon the content of the forthcoming sessions.

*'it worked OK, erm, but I think that maybe instead of just one of us picking an article, could you not just pick one for all of us to like, read. So that, we are all doing the same thing... could it not be related to what we are learning about?'*

(Student 6)

It was expressed by one student that they felt that journal club participation should be incorporated into the assessment criteria for the unit.

*'could we not get graded for it, like, get assessed instead of having to do an essay or something?'*

(Student 7)

### **Discussion**

This action research study has allowed the author to respond to a need for improving research appraisal and critical thinking skills within an undergraduate post-registration nursing degree. As a result of concerns about students' critical appraisal and critical thinking skills identified by the author in previous academic courses, it was felt that a course of action had to be taken. As a result a collaborative approach was taken between the author and students enrolled on the degree programme and the journal club was developed. In this study, it was demonstrated that participation in the journal club had a positive contribution to improving perceptions towards research utilisation skills of the students. Participants mentioned that the journal club had many advantages, and also some areas for improvement. Participants in the study reported that the use of the journal club assisted in developing their research appraisal and critical thinking skills. This included the development of a more positive attitude towards utilising research and confidence in approaching it throughout the duration of the unit of study. This is supported by (Laaksonen et al., 2013) who identified that journal clubs promote the understanding, motivation, competence and attitudes required for delivering EBN. The descriptive data describing confidence levels supported the perceived growth in confidence in handling research with specific focus upon appraisal and critical thinking skills. Six out of seven (86%) participants demonstrated improved confidence following the completion of the journal club programme. Therefore, the results of this modest study support conclusions from previous studies that journal clubs improve research confidence (St Pierre, 2005).

As a result of the data assimilated through both focus groups the author can reflect and plan for future cycles of the Norton action research model (Norton, 2009). As the current format of the journal club was generally well received by the majority of the group, the format will remain unchanged in future units. The findings of this study support the continuation of utilising the journal club handbook produced by the author. This positive finding is supported by Burstein, Hollander & Barlas (1996), who established that the use of a structured review instrument in journal clubs actively increased participant satisfaction and enhanced the perceived educational value of the activity. The suggestion of integrating the journal club further into the curriculum of the unit is to be trialled in a second cycle of this action research study. It is envisaged that the author will identify a range of suitable papers for the students to select from as well as a 'wild card' option, which will allow the students to choose their own paper. Attention must still be given to the individual identification of research through correct literature searches. The author aims to run a workshop on this area so as to not disadvantage future students. Further work will also be undertaken to establish the validity of developing the journal club into a summative form of assessment. However, this will be reserved for a possible third cycle of the process.

### **Conclusion**

This study sought to evaluate the impact of the implementation of a journal club into an undergraduate post-registration intensive care nursing degree as part of the first cycle of an action research project. The qualitative and descriptive data supports the assertion that the



journal club provides a structured and supportive environment for undergraduate students to embrace and develop the principles of evidence-based nursing. Notwithstanding its exploratory nature, this action research study offers some insight into the ability of well supported and structured journal clubs in developing confidence in research appraisal and critical thinking skills amongst undergraduate students. This study makes the recommendation to continue onto a second cycle of the study, and implement a standardised; curriculum linked dissemination of articles and associated literature-searching workshops. A third cycle may evaluate the role of journal clubs as a summative method of assessment.

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