

## ABSTRACT

### Background

To improve journal club participation, innovative approaches are required but few have been described. It was unknown if adding an element of competition, to an established journal club, would increase nurses' participation.

### Objective

To explore the impact on attendance and participation in a hospital wide nursing journal club through the introduction of an element of competition.

### Design

A descriptive exploratory study.

### Setting and Participants

An Australian specialist tertiary paediatric hospital with over 1600 nurses

### Methods

In 2013, 12 hospital wards/departments were randomly assigned a month each to present journal club. Nurses were supported to evaluate an article according to a published framework. A predetermined rubric guided marking. Post competition all hospital nurses received an anonymous online survey invitation. Demographic, Likert scale and qualitative data were collected. Questions elicited attitudes and perceived barriers or facilitators to participation in the journal club.

### Results

Compared to 2012 there was a statistically significant increase in journal club attendance (2013 median= 20.5 [IQR 18.2, 27.7] vs. 2012 median=9 [IQR 6.5, 12.5], Mann–Whitney U test  $p < 0.01$ ). Full online survey responses were received from 289/1674 (response rate 17.3%) of sent invitations (*Non-Attendees*  $n=224$ , *Attendees*  $n=65$  (including 18 presenters). Overall, *Attendees* reported journal club had a positive impact on their professional engagement. Presenters rated the journal club format highly as it developed skills and increased their confidence in journal club presentation. Emergent themes were Time and Location, Engagement, Topics and Content.

### Conclusion

A competition format can increase nurses' journal club attendance and participation. Further work is required to establish applicability of this format to other settings.

## **INTRODUCTION**

Maintaining nursing competence requires practitioners to deliver care according to the best available evidence (Nursing and Midwifery Council, 2015). A critical element of establishing best practice requires nurses to use relevant literature and research findings to inform their current practice (DiCenso et al., 1998). Critical appraisal of research findings and reflection on the appropriateness of the research to practice are essential (DiCenso et al., 1998). Based on an interactive approach to learning (Harris et al., 2011), Journal Clubs (JC) offer one avenue for developing or honing these critical appraisal skills (Rogers, 2009).

JC have a long history of facilitating, disseminating and critically appraising contemporary journal articles for health practitioners (Linzer, 1987). Much of the evidence surrounding JC is derived from the medical profession (Rogers, 2009). A review, of mostly medical studies, by Harris et al. (2011) reported that JC can improve reading behaviour, confidence in critical appraisal, critical appraisal test scores, and ability to use findings in clinical practice. However, Horsley and colleagues (2011) in their recently updated Cochrane review, could only find three randomised controlled trials of interventions to teach critical appraisal skills to health professionals. Both Harris et al. (2011) and Horsley et al. (2011) concluded that, to further our understanding of how JC support evidence-based practice, further research is advocated. Linzer et al. (1988) found that attendance at a facilitated face to face JC significantly improved reading habits and knowledge of research methods compared to a control group. In addition, this knowledge increase correlated with the number of JC sessions attended.

Within the nursing literature, there are many descriptions of various JC formats with a similar lack of empirical evidence (Rogers, 2009). Reports indicate that JC can improve nurses' knowledge in interpreting and appraising nursing research (Kartes and Kamel, 2003; Mattila et al., 2013; Ravin, 2012; Rogers, 2009), increase confidence in reading and raise awareness of relevant literature (Nesbitt, 2013) and lead to evidence based practice change (Hughes, 2010; Kartes and Kamel, 2003).

To improve nurses' engagement in critically appraising current literature and promotion of evidence based practice at the Royal Children's Hospital, Melbourne, Australia (RCH) the Nursing Research Committee established a hospital wide Nursing JC early in 2010. To maintain momentum, changes in timing and many of the approaches recommended by Honey and Baker (2011) were tried. Despite this, JC attendance gradually reduced. Thinking beyond strategies described in the literature for increasing attendance and participation in JC, the question was asked whether adding an element of competition into JC could make a difference?

Competition surrounds us all, every day, whether it is, striving for that promotion (Vidal and Nossol, 2011), sporting activities (Tyler and Cobbs, 2015), university rankings (Linton et al., 2011) or presence on Facebook (Chou and Edge, 2012). Innately, humans compare themselves to others and strive to achieve or maintain a superior relative position (Garcia et al., 2013). Thus, it was proposed an innovative competition format could improve JC engagement. Given the novel nature of this intervention an evaluation was undertaken.

### Aims

To explore the impact of a novel competition format on paediatric nurses' preparation, presentation and participation with a hospital wide JC.

To explore paediatric nurses' reasons for not attending a hospital wide JC.

## **METHODS**

### Hospital Setting

The RCH is a specialist tertiary paediatric hospital that cares for approximately 34,700 inpatients per year. The RCH has approximately 4500 employees of whom over 1600 are nurses. This nursing workforce is distributed over 11 inpatient wards and numerous outpatient services.

## Intervention

In 2013 the 'Evidence Owl Nursing Journal Club Competition' was introduced hospital-wide and was trialled for one year. Twelve wards/departments were allocated a month to deliver a JC. Allocation of presentation months was generated via a computer-based randomisation process. Nurse Unit Managers and Clinical Nurse Educators were emailed: allocated months, times and locations, and the scoring rubric (see Supplementary Information), Wards/departments were asked to nominate a representative to liaise with the Nursing Research Department who provided support to nurses in preparing their JC presentation. This support commenced with personalised distribution of JC resources to the Clinical Nurse Educator/Nurse Unit Manager of each ward/department, with a request for them to identify presenters. Those nurses were then personally contacted by the Nursing Research team and offered an opportunity to communicate with a specific research team member. Predominantly, queries directed to the Nursing Research team related to article suitability and support interpreting results in complex papers. Delivering this support provided a valuable opportunity to develop research knowledge and understanding in JC presenters.

The article selected for JC was to report original research and have been published within the previous two years, unless strong justification for choosing an older article could be given. The article was to be critiqued according to Schwartz et al. (2007) framework. This 10 step framework provides a structured approach for healthcare staff to review articles for JC. When preparing for JC, prior to the competition's introduction, nursing staff found the 10 step guideline easy to follow and as some had previous exposure to the framework it was also incorporated when the competition element was added. In addition, the framework promotes presentation of the chosen paper within ten minutes, allowing ample time for discussion. If the study utilised a non- experimental or qualitative design, guidance was provided for alternative approaches to some of the steps outlined by Schwartz et al. (2007), for example reframing PICO and considering the trustworthiness of the data for qualitative research. These presentations were to be made without the use of software presentation programs and presenters were asked to prepare a one-page, take away information sheet.

JC presentations were held in the hospital's health learning precinct, commonly accessible to all wards. One week prior to each JC presentation, invitations and chosen articles were distributed using nursing email Distribution Lists. Invitations were also posted on an intranet notice board. During JC, presentations were independently marked according to the rubric by two members of the Nursing Research and Education Department. The average of points awarded was calculated for each ward and at the end of the year the prizes were awarded. These prizes included certificates for the first three wards, an engraved trophy and academic book store voucher for the winning ward, and entry of the winning ward's name on a perpetual trophy.

Attendees at each JC presentation were asked to complete an evaluation slip that included a rating of the 'Value of information' delivered in the presentation: 'Extremely useful', 'Useful' or 'Not useful'.

## Descriptive prospective questionnaire

After local ethics approval (HREC 33167) an up-to-date email list of nurses employed at RCH was obtained from the Human Resources department. After the last round of the JC competition, nursing staff were emailed a project information sheet and an invitation to complete an online questionnaire (LimeSurvey Project Team / Carsten Schmitz, 2012). To ensure no duplicate responses were obtained an anonymous individualised token system was used. This enabled identification of survey completion and appropriate reminders could be sent. In addition, when using the anonymous token option, LimeSurvey™ stores questionnaire responses and participant contact details in separate databases. As there is no traceable link between these databases, and it is impossible to match participants with their responses, anonymity of questionnaire responses was maintained. Consent to participate in the study was implied if nurses completed the questionnaire.

The questionnaire included 14 questions. Four demographic questions were asked of all respondents and then divided for *Attendees* and *Non-Attendees*. Questions for *Non-Attendees* were deliberately kept to a minimum in an attempt to improve completion in a group that had not previously engaged with the JC format. *Attendees* were asked questions about which JC they had attended and JC engagement was assessed with eight Likert questions (Strongly Disagree, Somewhat Disagree, Neutral, Somewhat Agree, and Strongly Agree). JC presenters were then asked if they had previously presented at a JC followed by six similar Likert questions regarding the process of presenting at 2013 JC. All respondents were asked four open-ended questions; 'What was the main reason you did NOT

attend an Owl Nursing Journal Club in 2013?', 'What would enable you to attend more Journal Clubs?', 'What recommendations would you make for future nursing Journal Clubs?', and 'Other comments regarding the Owl Nursing Journal Club'.

Prior to release, the online questionnaire was piloted with 17 RCH nursing staff volunteers to obtain feedback on the questionnaire's, readability, understanding of questions and questionnaire functionality. The feedback provided by the volunteers was not used in the final data analysis. Volunteers were re-invited to participate in the live questionnaire with all nurses.

The questionnaire was available for three weeks from the 18th December, 2013 to the 9th January, 2014. One week prior to the closing date a reminder email was sent out. In addition, the questionnaire was promoted through the hospital via electronic and physical notice boards. In an attempt to increase the response rate, an AU\$ 50 voucher incentive prize was offered to participants who fully completed the questionnaire. Contact details were submitted separately and a computer based random number generator picked the prize winner.

#### Data analysis

As this study was exploratory and descriptive in nature no specific sample size was sought. Only data from respondents who fully completed the questionnaire was included in the analysis. Descriptive data analyses were undertaken of quantitative data, including, frequency counts and percentages for categorical data and median values, and interquartile ranges [IQR] for continuous variables. Attendance at the 2013 JC sessions were compared to 2012 using a Mann–Whitney U test. From Likert scale data, percentage charts were generated according to demographic factors. Data was analysed using Microsoft Excel® and SPSS. Results were considered statistically significant if  $p < 0.05$ .

Qualitative data analysis was guided by the steps described by Braun and Clarke (2006); familiarisation with the data, generation of preliminary codes, searching for themes, reviewing themes and defining and naming themes. Such an approach is well suited to descriptive studies where the intent is to identify, analyse and report patterns (themes) within the data. In this study one of the researcher's undertook the preliminary coding and theming of the open ended responses. Another researcher independently reviewed the data and consensus was reached on the final themes.

## **RESULTS**

In 2013, all 12 wards/departments presented their JC on their allocated day. A total of 265 (median=20.5 [IQR 18.2, 27.7]) people attend these sessions. This was a statistically significant increase in comparison to the previous year where there were 11 JC held with 85 attendees (median=9 [IQR 6.5, 12.5]), Mann–Whitney U test  $p < 0.01$ . As many wards/departments chose to share the JC presentation task, there were 22 presenters. Of the JC attendees 157 (59.2%) completed a mini evaluation slip. These slips demonstrated almost all *Attendees* reported JC as 'Extremely Useful' ( $n=86$ ) or 'Useful' ( $n=69$ ). Only two people indicated that a session was 'Not Useful'.

There were 1686 email invites sent out and 289 (17%) complete responses to the questionnaire were obtained as detailed in Figure 1. Of those fully completing the questionnaire 245 (84.8%) requested to be entered in the prize draw. As there was often more than one JC presenter there were responses from 18 Presenters with a response rate of 81.8%. The median age of respondents was 36 [IQR 29, 47] and their median year of first qualifying as a registered nurse was 2001 [IQR 1989, 2007].

Whilst they may not have attended a JC, 162 (56%) nurses reported reading at least one of the emailed articles. Over the competitions 12 months respondents reported reading 452 of the sent articles with a hospital wide monthly median of 38 [IQR 21, 51].

Responses from Likert questions asked to *Attendees* can be seen in Figure 2. Whilst *Attendees* were neutral about the competition element of JC, other aspects of engagement were rated highly. The majority of *Attendees* indicated that reading the article and attending JC increased their critical thinking about practice, the discussion was interesting, and that attendance increased motivation to investigate ways of improving practice.

Of the 18 presenters responding to the survey, 15 had not presented at a JC before. Responses from Likert questions asked to Presenters can be seen in Figure 3. After presenting JC a majority of people

reported that they felt more confident about presenting again and gained new skills. Presenters highly rated the documentation and support provided. Overall, Presenters reported that their teams were interested in their presentation and that the marking schedule was transparent.

Analysis of the qualitative data led to identification of three themes.

#### *Time and location*

Clinical work pressures often made it difficult for nurses to attend JC. Better integration of JC with the education calendar was recommended by some respondents. Suggestions were made to alternate the timing and day of JC to better meet staff needs. Some suggested locating the sessions in the presenting ward to enable greater attendance of local staff. Moving to an online format was proposed by a few respondents, as was recording the sessions and making them available online.

#### *Engagement*

Most respondents, including those unable to attend JC, thought that JC was a positive addition to the nursing professional development calendar. Broadening the initiative to enable other departments to present was suggested. Involving more bedside nurses in the presentation was also recommended. Conversely, many respondents reported that they were not aware of the JC sessions. Others were concerned that JC content might be pitched at too high a level. Incentives to encourage further participation included offering paid time to attend and refreshments. Suggestions to broaden the competition element included, awarding prizes for the best postgraduate nurse presenter or clinical nurse specialist, or to the ward with the best attendance over the year.

#### *Topics and Content*

Many respondents liked the diverse range of journal articles reviewed, whereas others preferred the topics to be more relevant to their own specialty area of practice. A few respondents reported indifference to the JC concept. One respondent identified that the quality of the research papers was not always ideal and called for greater critical appraisal of the studies. Making the scoring rubric available to presenters in advance was suggested by another. The value of the discussion generated during the JC presentation was summarised by one respondent as follows:

*'I found the journal articles most helpful to my practice once the discussion surrounding the concepts and ideas was related to RCH practices. It made an in-road for me to adapt this practice for general reading of journal articles not associated with journal club. I would therefore recommend to make the content relevant to what staff members do in their day-to-day practices at RCH, and show how it relates (to best practice, the articles, highlights the need for an audit within a unit etc.)'*

## **DISCUSSION**

Whilst JC have a long history, this is the first reported investigation of incentivising a JC with a competition. This study demonstrated that a competition format can improve engagement of paediatric nurses with a hospital wide JC. Whilst most attendees were neutral about the competition element, compared to the previous year there was a statistically significant increase in the number of attendees. Of note, the number of nurses attending has continued to rise with the continuation of the competition into 2014 and 2015.

As stated in this article's background, in a bid to achieve or maintain a superior relative position, humans innately compare themselves to each other (Garcia et al., 2013). This desire or concern about social comparison is also extended when individuals establish a group identity. For this study nurses were grouped according to their ward or department. When groups are pitted against each other there is an increase in competitiveness that can lead to increased group performance (Rand and Nowak, 2013). This aroused element of competition can overcome perceived negative personal consequences (Garcia et al., 2013). In this study, stimulating a desire to win with a social comparison, offering a prize and status, superseded the negative impact on time or other consequences that participating in JC may incur. Of interest, the inaugural winner in 2013 won again in 2014 and threw out the challenge to other wards for 2015. As a consequence eight more departments have sought to participate in 2015. In addition, there has been an increase in bedside nurses presenting and leading discussions both of which attract more competition points.

This study did not set out to determine if engaging in JC would increase nurses' capacity to critique evidence and one respondent to the survey suggested presenters needed to engage in greater critique. The findings did demonstrate that attendance at JC led to increased critical thinking about practice and that engaging in discussion was interesting. When so much of a nurse's day can be caught up in the busy, messy reality of clinical practice, the provision of time, space and an expectation that attention will be directed to thinking critically about practice, cannot be underestimated. JC enabled this to take place, even if only for 45 minutes, once a month.

The secondary aim of this study was to explore the reasons for paediatric nurses not attending the JC. This element was included in an attempt to elicit elements that were amenable for modification for future JC. In line with much of the research regarding nurses' engagement in research utilisation (Kajermo et al., 2010) or evidence based practice (Maaskant et al., 2013) the major obstacle was time. Choosing a suitable time, particularly for those on a night shift (Stewart et al., 2010), can be a challenge. In previous attempts to increase JC engagement, various times and variation in clinical focus had been attempted. However, prior to the competition element attendance numbers were reducing. Aligning JC with the regular "Tuesday @ 2" education program increased awareness of the JC. Survey results suggested further action was needed to promote attendance. Since the survey, an organisational expectation was established that all inpatient nursing areas should send available staff to the weekly "Tuesday @ 2" education sessions, within which the JC is scheduled. This organisational expectation setting has seen JC attendance grow to in excess of 60 attendees each week in 2015.

To provide some flexibility of interacting with JC, and therefore increasing its reach, survey respondents suggested recording or making sessions available online. Various online formats have been described (Berger et al., 2011; Kean, 2013). Whilst these might be a promising, it would require further investigation as face-to-face JC engagement maybe affected. Individual nurses may choose to watching JC rather than participating in it. As a JC passive receiver, this would impact on the opportunity to contribute to the discussion, which attendees found so useful.

### Limitations

In considering the results of this study some limitations are to be taken into account. This study was conducted in an Australian single centre paediatric hospital. Whilst it appears that JC engagement improved when an element of competition was applied to an established hospital wide JC, the applicability of these results to other settings are yet to be tested. In addition, despite attempts to incentivise survey completion, the low response rate may mean that presented opinions are not totally reflective of RCH nurses.

Whilst the competition element seemed to improve nurses' engagement in JC it was not the only organizational change occurring at this time. A potential contributing factor was aligning JC with the introduction of regular "Tuesday @ 2" education sessions. Whilst these sessions are not mandatory this may have had unmeasured influence on JC participation. Nonetheless, adding an element of competition to an already established JC appears to demonstrate that attendance can be enhanced through this initiative, and in turn promote a positive organisational culture of critical inquiry.

When respondents were completing the online survey they were required to self-report. Thus, these responses may not translate into actual clinical skills (O'Sullivan et al., 1995). It could be argued that respondents reported expected answers. However, given the nature of some of the comments received, it appears respondents were confident in the anonymity token system.

### Implications for practice

Findings from this study indicate that JC continue to have relevance to nursing. Providing a forum where nurses can discuss pertinent topics, develop a spirit of inquiry and for some, develop critical appraisal skills, can be a valuable tool in engaging nurses with evidence based practice.

It is recognised that adding an element of competition may not be suitable to all JC and other novel approaches will require further study. However, this study found that the competition aspect increased participation and engagement. This has led to negating some of the often cited pressure of time. Since undertaking this evaluation and responding to suggestions, some tweaking to the competition format has been made. The journal club competition is now firmly embedded in RCH culture and continues to grow from strength to strength.

## CONCLUSION

JC can have an important role in post-graduate education to facilitate learning. However, in terms of a critical appraisal of the literature, the available evidence to support most of the reported benefits of JC is sparse. This study has shown that a novel competition format added to the traditional JC format can increase nurse's engagement with research findings. Ongoing evaluation is required to establish the JC competition format and its applicability to other settings.

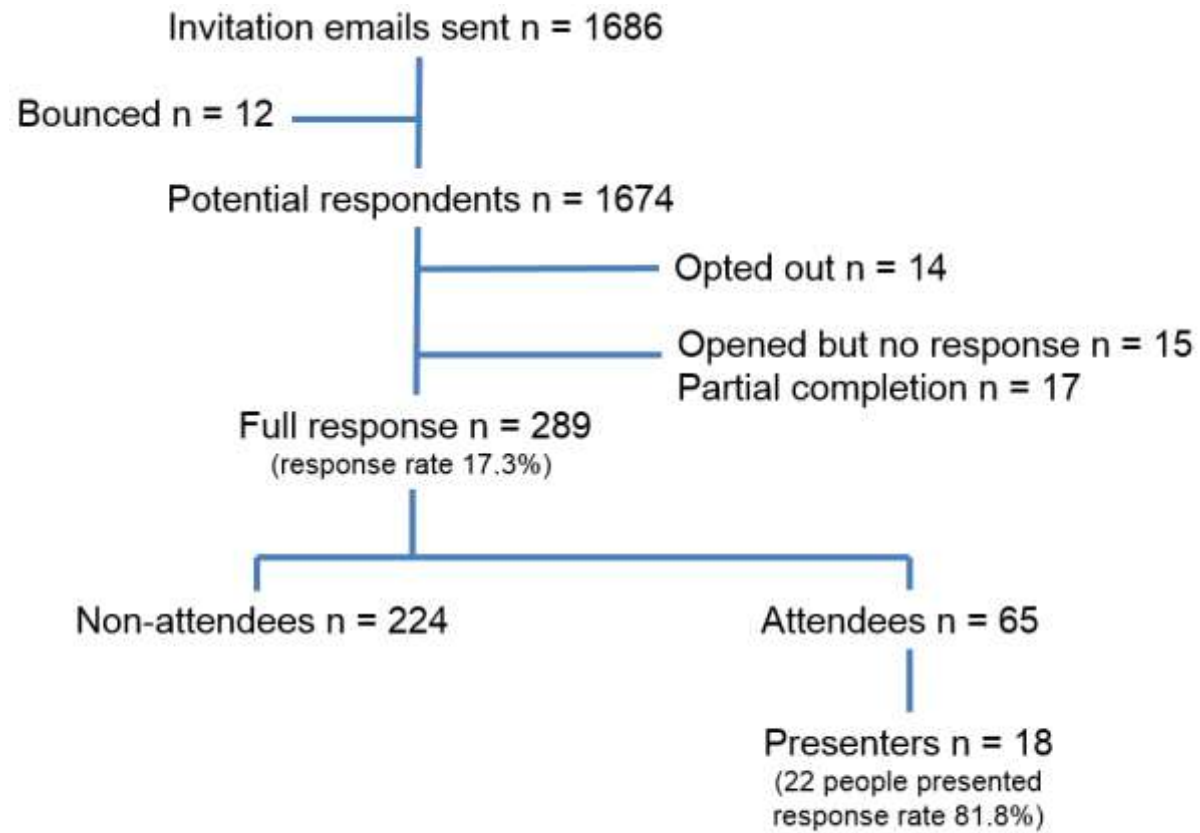


Figure 1 Response to journal club evaluation survey



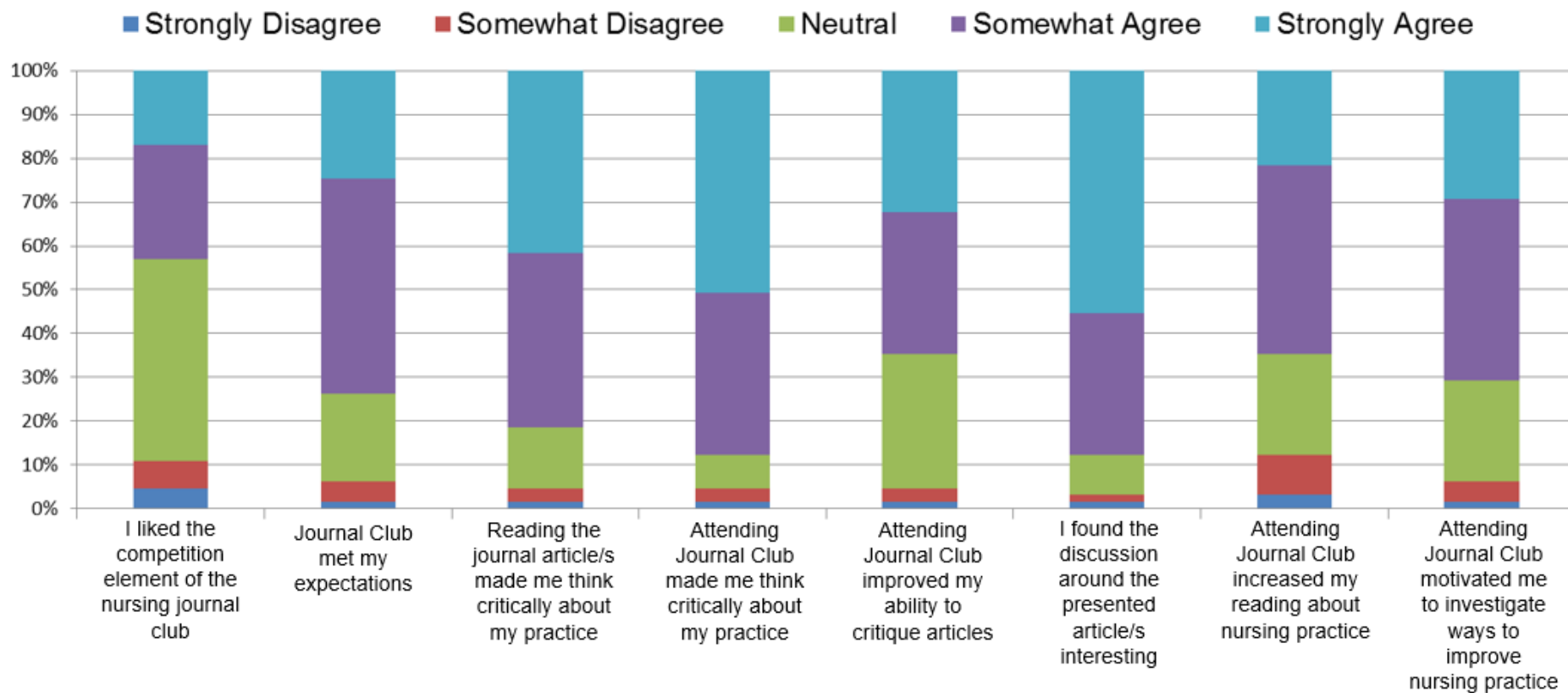


Figure 2 Engagement by *Attendees* with nursing journal club (n=65)

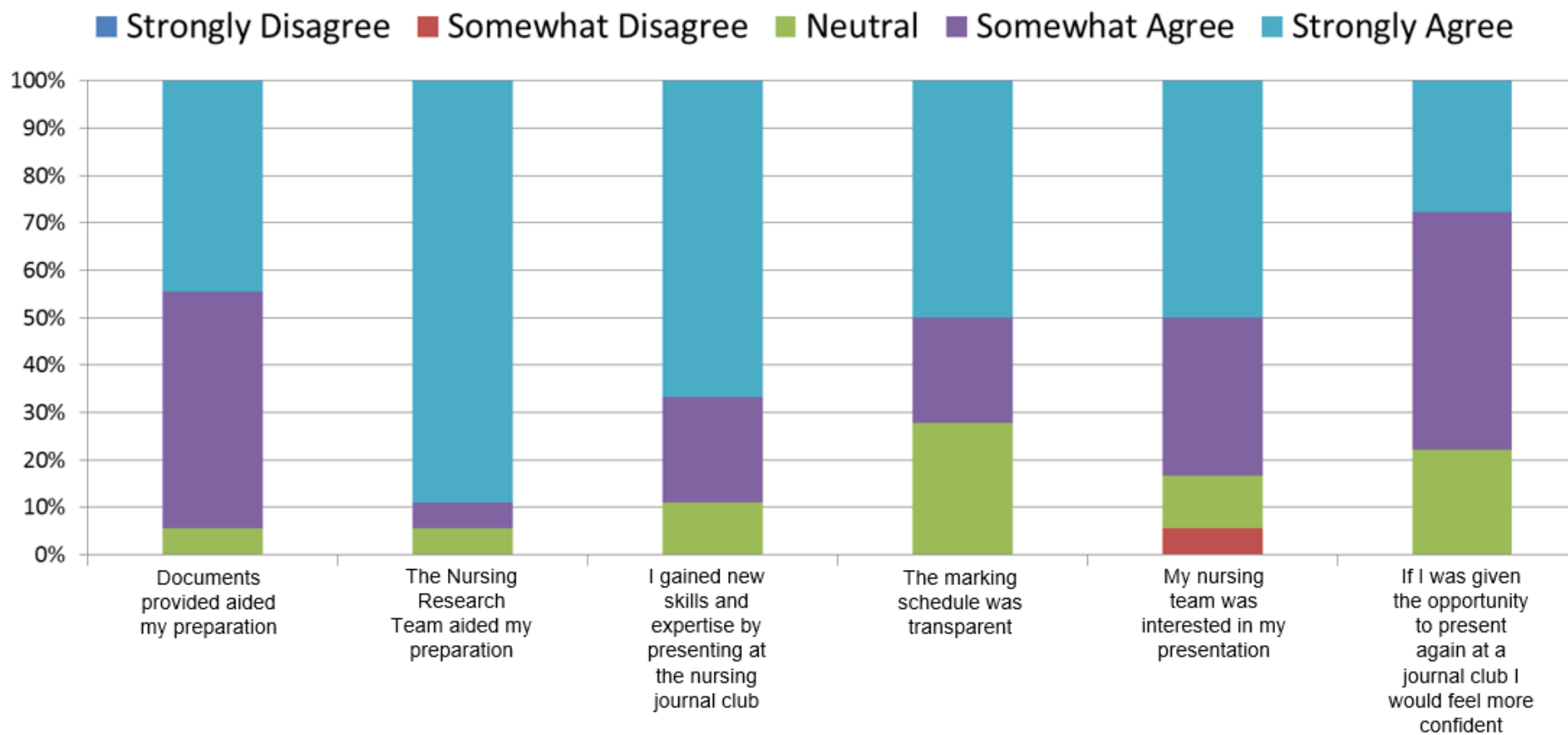


Figure 3 Process of presenting at the nursing journal Club (n=18)

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