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# Scholarly critiquing: A 12 step guide for promoting professional life-long learning in medical academia

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## Article info

### Article Type:

Review

### Article History:

Received: 11 July 2019  
Accepted: 16 Sep. 2019  
epublished: 30 Dec. 2019

### Keywords:

Journal club  
Critical reading  
Scholarship  
Letter to editor  
12 Tips

## Abstract

The concept of the journal club is a time-tested collaborative learning activity to keep health professionals abreast of current literature and improve their confidence in reading literature. Being equipped with the skills to critically analyse a peer-reviewed scientific manuscript is equally as important as carrying out research and publishing papers. Most published literature related to the concept of journal club examines only the core critical appraisal skills and leaves behind potential factors which could significantly influence the effective pursuit of a journal club. In this practical advice paper, the author highlights 12 steps for conducting an effective journal club and the practical difficulties associated with each step.

**Please cite this article as:** Kumar D. Scholarly critiquing: A 12 step guide for promoting professional life-long learning in medical academia. Res Dev Med Educ. 2019;8(2):65-68. doi: 10.15171/rdme.2019.013.

## Background

Fuelled by ongoing educational inflation and advances in information - communication technologies, the medical academy requires the continuous acquisition of knowledge and practices to remain competitive and viable. In addition, literature suggest that 'biased results from poorly designed and reported trials can mislead decision-making in healthcare at all levels'.<sup>1</sup> Irrespective of the field of interest or discipline involved, any scientific evidence should be critically appraised in order to determine the precision and applicability to our corresponding settings. Academic activities that require inquiry based learning, such as seminars and symposia, seldom promote critical appraisal. We could deduce that a modern day postgraduate medical student is skilled and comfortable in accessing digital learning content, but may have some difficulty in assimilating learning materials "gathered" as well as presenting these in a coherent way.

From the days of Sir William Osler until now, journal club has been a time-tested collaborative learning activity to keep health professionals abreast of current literature and research and improve their confidence in reading

literature.<sup>2</sup> Another ramification which stems from critical review of publications in peer-reviewed journals is drafting a "letter to the editor," a form of short communication that conveys alternate viewpoints or points of interest.<sup>3</sup> It can be understood that being equipped with the skills to critically analyse peer-reviewed scientific manuscripts is equally as important as carrying out research and publishing papers, as viewpoints in medicine need not always be either in black or white.<sup>4</sup> Unfortunately, little or no weight is given to the number of journal clubs presented or letters to editors in the medical academy.

The evaluative criteria for accrediting scholarly activities define expectations that each core faculty member should fulfil his or her role as a scholar in a consistent and substantial manner.<sup>5</sup> However, three decades after Ernest Boyer's recommendation for scholarship reconsideration, most Institutes give most preference to research (scholarship of discovery) as the sole measure for professorial activity. It should be noted that publication in high quality journals alone does not guarantee the dissemination of scholarship to stakeholders of organizations.<sup>6</sup> In a more grounded visionary sense, an 'ideal scholar' of today

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should be able to place the knowledge gained into larger contexts and intellectual patterns in order to attain a more comprehensive understanding. In addition, scholarship should include interaction between theories and practice to perpetuate a seemingly endless conversation among peers. If we amalgamate both the objectives mentioned above, critical appraisal is something accomplished at the boundaries of the two fields: that is, the scholarship of both integration and application. Bearing this in mind, I would like to expand scholarship to an uncharted territory to enfranchise the scholarship of both application and integration. I intend to highlight the pitfalls and potential roadblocks I have witnessed while organising such activities. I hope that this article will offer helpful tools to empower medical education departments that wish to inculcate effective postgraduate or faculty development programs to enhance and expand their scholarly endeavours.

#### **Tip 1: Start with a rigid schedule**

Starting a journal club activity can be difficult, especially in departments with fewer postgraduate students or disinterested faculty. Personal ambivalence and time constraints often impede adherence to the schedule and thereby the regularity of the activity. This highlights the need for developing a rigid schedule at the beginning of the journal club and monitoring adherence to the schedule by the head of the department. Even though this tip sounds trivial, it is not an easy job to require the stakeholders comply, considering the fact that they often consider such presentations as an additional burden on top of their routine responsibilities.

#### **Tip 2: Clearly define the areas of interest**

Each discipline has particular domains of interest which need not exactly fit into the realms of clinical expertise. As learning needs differ according to individual and organizational and subjective and objective levels, it is imperative to define these clearly before implementation.<sup>7</sup> In other words, the pattern of primary literature differs between preclinical, para-clinical and clinical discipline; the voices of various stakeholders of that particular discipline should be considered and domains of specific interest should be mapped out. This, on one hand, entertains diversity of presentations in the journal club and, on the other hand, defines the boundaries of paper selections.

#### **Tip 3: Communicate the goals of the activity to all stakeholders**

Journal club activities should preferably accomplish some or all of the following objectives: 1) to impart information on optimal patient care/teaching based on available global evidence, 2) to resolve controversies generated on a particular subject, 3) to hone the practice of critical appraisal, and 4) to acquaint the stakeholders

with advances in the field of interest.<sup>8</sup> Communicating the goals of the activity beforehand avoids any ambiguity between journal club and seminar.

#### **Tip 4: Select a mentor/co-teacher**

The positive influence of faculty mentoring in selecting an appropriate article for journal club is significant. However, it should neither be restricted only to selection nor be a proxy presenter for the mentee. The success of the mentoring relationship depends largely on the skills of the mentor and the appropriateness of the mentor-mentee match.<sup>9</sup> Regarding topics of interest, a mentor can act as a co-teacher in providing practical insights into the issue. A mentor can also serve as a crucial indicator in ensuring the depth of cross-reading done by the presenter.

#### **Tip 5: Picking up the cherry**

Choosing the right article is the most vital step for a journal club. The resident needs to carefully select publications that are likely to be of maximum benefit to the large majority of their peers<sup>8</sup> and, preferably, from a high-quality journal. For practical reasons, it is wise to choose an article with the following characteristics: (a) with 2 or 3 diagnostic parameters, (b) with not more than two hypotheses, (c) not involving much of a qualitative component, (d) published within the past six months, and (e) which can be succinctly explored within the stipulated time. One recommendation is to choose three articles and ask the mentor to decide on the best one.

#### **Tip 6: Doing the ground work**

A novice presenter, who is new to the journal club practice, confronts two challenges. One is the optimal coverage of the wide body of literature related to the topic and the other is how much should be discussed during the presentation. It is prudent to focus and explore the methodology and statistical components used in the article and compare it with similar studies. It is helpful to read a few systematic review articles on the particular topic to obtain a comprehensive view and search databases such as Medline and SCOPUS to ascertain the trends of research.

#### **Tip 7: Haste makes waste**

Many times, we see that a presenter, who is mandated to present at a particular time, keeps on searching for the “optimal” paper and compromises on the background reading. Procrastination is the worst pitfall for the effectiveness of the session. An ideal way is to establish a timeframe and allot one week each for finalizing the article choice, doing the background search, and preparing the material. It is better to provide all participants with pre-reading material on the topic at a suitable time period prior to the journal club (up to a week prior).<sup>10</sup>

#### **Tip 8: Achieving effective collaborative learning**

Engaged scholarship can be defined as a “collaborative

form of inquiry in which scholars and practitioners leverage their different perspectives and competencies to coproduce knowledge about a complex problem or phenomenon<sup>11</sup>. Unless peers come prepared by reading the circulated material so they are able to participate in meaningful discussions, journal club activities can't be deemed effective. Mattingly<sup>12</sup> posited that having an engaged, interactive discussion creates restrictions around the size of the journal club. If the number of participants is high, many do not get chance to interact, yet if the number is too low, then sufficient two-way interaction and discussion won't take place.

### Tip 9: Plan the presentation with finesse

An interactive journal club activity differs from the seminar-format in that it requires active participation of the participants and incorporates principles of adult learning such as critical thinking and active reflection.<sup>13</sup> The presenter should start the session by analysing the title, guiding the participants in envisaging the background, stating the aims/objectives of the work, as stated by the author, and analysing the dataset. In this way, participants can essentially put themselves in the author's shoes and, as a group, develop a research plan to address the underlying questions.<sup>13</sup> At the end, the presenter should enumerate the salient findings as stated by the author and analyse the conclusions made to the aim / objectives and to the field of interest.

### Tip 10: Critique reflection on the article

It is not uncommon for novice presenters to think that their role in a journal club activity ends after presenting the session. However, the real depth of comprehension and analysis is ascertained by the way the presenter tries to pick out the limitations of the study and loopholes in the discussion. Participants will come up with alternate opinions, including the feasibility of the study in corresponding settings and the risk-benefit ratio of the innovation. Constructive criticism or argumentation is the highlight, which hones the skills of the presenter as well as the participants, and also the longevity of evidence-uptake or application.<sup>14</sup> These controversies and questions offer a way forward in reaching the best diagnosis/management/teaching methodology. In this regard, journal clubs offer a helpful opportunity to resolve these controversies and arrive at a consensus.<sup>8</sup>

### Tip 11: Develop a repository of critically appraised topics

Apart from developing a rubric for evaluating the skills of the presenter, it is beneficial to develop a repository which contains a collection of critically appraised topics (CAT) along with the minutes of the discussion. CATs contain the synopsis of the publication, written from the point of view of the presenter, along with the critique, reflections, and shortcomings. If two contrasting voices

of equal strength arise related to a particular topic, then it can be summarised in point-counterpoint format.<sup>15</sup> In unique conditions such as deciding about adopting a new management protocol or replacing an older teaching methodology with an innovative one, a force field analysis can be done, which can be documented as well. Learning platforms and social networking sites can be used for continuing a healthy discussion on the topic and for dissemination of post-presentation learning materials.

### Tip 12: Writing a letter to the editor

As mentioned earlier, a fruitful ramification of the journal club activity is dissemination of the critical appraisal as a letter to the editor. A letter to the editor usually consists of an evidence-based criticism of the justification, analysis, or outcome of the study.<sup>3</sup> The presenter can draft the letter after discussing with the mentor and based on a concise evaluation of the literature. Many prestigious journals, such as *Academic Medicine*, encourage trainee-authored letters and these instigate a dialogue in the medical academy. I would recommend that, irrespective of the publication motive, documenting the perspective in letter format is helpful in developing *critical reading* skills.

### Conclusion

Journal club offers a unique way of critically appraising peer-reviewed publications in a constructive manner that allows participants to keep abreast of current literature and learn critical reading skills. Although the literature provides recommendations about best practices regarding a journal club, practicality is important and often overlooked. Most of the published literature related to journal club weighs core critical appraisal skills and leaves behind potential practical factors, which can significantly influence the effective pursuit of journal club. Irrespective of the discipline involved, the common elements mentioned in this paper are crucial to organizing and conducting a journal club. In conclusion, I believe that these tips will be of help in organising journal club activities, especially for departments where no such previous activities have taken place.

### Ethical approval

Not applicable.

### Competing interests

The author declares that there is no conflict of interest.

### Author's Contribution

DK has defined the concept, done the literature search, and designed and edited the manuscript.

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