



The Teaching-Research Nexus

A guide for academics and policy-makers
in higher education

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Examples from Australian universities

Student Journal Club: An initiative to engage Biomedical Science students as members of a community of scholars

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Broad discipline area:

Natural and Physical Sciences

- Biomedical Science

Year level:

This is an initiative that progresses across year levels. In the first two semesters, students attend an occasional seminar. In Semester 3, they undertake a subject, *Scientific Writing and Research Methods*, which gives them basic skills in reading and evaluating the literature, as well as presentation skills. In Semesters 4-6, students present a journal article to the Journal Club once per semester.

TRN strategy:

- Designing learning activities around contemporary research issues
- Encouraging students to feel part of the research culture of departments

Teaching and learning context:

- Oral/research presentations
- Learning to learn/life-long learning

Brief description of the initiative:

The Faculty of Health Sciences and Medicine at Bond University has had a long-standing research seminar program. In 2007, this program was extended to incorporate a student journal club. The objectives of this initiative were:

- to engage students as part of the community of research scholars within the Faculty
- to provide students with training in finding and evaluating research articles
- to develop students' critical thinking skills
- to provide students with the opportunity to develop oral communication skills in a research-focussed setting, and to gain confidence in oral presentations
- to facilitate interactions between students, teaching and research staff in the faculty

All Biomedical Science students complete a subject on *Scientific Writing and Research Methods*, generally in the third semester of their program. This subject provides some basic skills in reviewing the literature, but does not focus on oral communication skills. Students carry out a simple research project, based around a survey, in which they research the relevant literature, carry out a statistical analysis of their data and present their results as a poster.

Following on from this, students become involved in the journal club. Once per semester, each student in the Biomedical Science program selects a scientific paper to briefly review, with input from the academic staff member coordinating the journal club. Students are asked to present a recent paper from a high-impact journal. In the first semester, the presentation is assessed formatively, with students receiving feedback about their presentation. In subsequent semesters, the assessment of the presentation is summative. Four to five students present a paper each week. These sessions are interspersed with presentations from visiting speakers and faculty-based researchers. The opportunity for students to hear experienced presenters serves to scaffold the development of scientific research and oral communication skills as well as informing students about the research programs in the faculty.

Students in the audience are encouraged to ask questions of the speaker, and have generally taken up this opportunity enthusiastically. There is a notable improvement in the quality and insightfulness of the questions as the program has progressed.

An important aspect of the journal club is the opportunity for informal discussion provided over pizza and juice at the end of the session. This has helped to embed the journal club into the culture of the Faculty, and has been very successful in stimulating discussion about research.

This initiative has been extremely well received by the participating students. Students rated the value of the journal club in enhancing their learning at a mean of 6.24 from a possible 7. Ninety-eight percent of respondents stated that the journal club has provided them with excellent communication skills; 98% of students surveyed reported journal club has significantly increased their ability to critically evaluate literature and develop analytical skills; a further 96% of students reported journal club was an important activity that fostered peer communication and communication with academic staff within the faculty.

For further details:

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Handout/Teaching materials: Journal Club Marking Criteria

In semester 3, the assessment of journal club presentations is Summative, that is, it contributes 20% of your mark for this subject. You will be given feedback on your presentation by an academic staff member, and you should feel free to approach the staff member for any additional explanation and feedback on your presentation.

	Poor	Adequate	Very Good	Excellent
<p>Overview (2 marks) This should be given at the beginning of your talk and should summarise what the journal article you are reviewing is about.</p>	<p>0.5 mark Overview was poorly organised, there was no grouping of information for key points. The methods, results, conclusions and limitations were briefly outlined.</p>	<p>1 mark Overview was adequate though the key points that will be introduced were not well summarised and confusing. The methodology, results, conclusions and limitations of the study were briefly outlined.</p>	<p>1.5 marks Concise outline of the key points that will be introduced. The methodology, results, conclusions and limitations were of the study were appropriately outlined, however could have been better organised with grouping of information.</p>	<p>2 marks Concise and succinct outline of the key points that will introduce the audience to the main points of the paper. The methodology, results, how they will be presented, the conclusion and limitations were succinct and there was excellent logic and flow to the overview of the presentation.</p>
<p>Background./Introduction (4 marks) The next stage of your talk should be a summary of the background information that led to this study. This does not have to be an extensive review of the literature, but should be sufficient for the audience to understand the basic biology/issues/work that led up to this paper.</p>	<p>1 mark A poor literature review that fails to cite key papers. The question/hypothesis is not identified correctly and is not linked to the background information. Unable to explain context of paper. A lack of knowledge and information in the area is evident.</p>	<p>2 marks Adequate review of literature, where some key papers are cited. The hypothesis/question is only identified and briefly outlined to the background information. There is limited use of references and limited knowledge of the area being presented.</p>	<p>3 marks Good literature review and identified the nearly all key articles mentioned. A good explanation of relevant background knowledge in the area is presented and the question/hypothesis is clearly identified.</p>	<p>4 marks Comprehensive and concise outline of key papers . Excellent use of references. The student is well versed in the area and able to fully explain relevant background information and concisely link it to the question or hypothesis.</p>

<p>Methods (4 marks) In this section, you should explain the methodology used to carry out the experiments/study. You should not concentrate on trivial details (eg concentrations of buffers) but should provide a critical explanation of techniques such that your audience understands what was done and is able to form an opinion about whether the methodology was appropriate (you should comment on this).</p>	<p>1 mark Little discussion of the methodology. Does not outline the experimental design (randomisation/double blind studies/controls) Provides inadequate outline of the methods used and limited literature to support the use of these methods. Does not explain the statistical analysis used for the study or its implications.</p>	<p>2 marks Adequate discussion of the methodology and the experimental design (randomisation/double blind studies/controls) Provides adequate outline of the methods used and limited literature to support the use of these methods. Some explanation of the statistical analysis used for the study and its implications.</p>	<p>3 marks Very good discussion of the methodology and experimental design, however does not explain the rationale for the methodology. Provides good outline of the methods used and literature to support the use of these methods. Able to explain the statistical analysis used for the study and its implications.</p>	<p>4 marks Excellent discussion of the methodology, including the experimental design (randomisation/double blind studies and rationale provided for this method). Comprehensively explains the methods used and provides supporting literature for the use of these methods. Able to cite the appropriate statistical analysis used and explain their significance.</p>
<p>Results (4 marks) In this section, you should describe the key results of the paper. You may not need to discuss every detail, but should present enough for the audience to understand what was achieved. A good idea to use graphs/tables etc presented in the paper.</p>	<p>1 mark Results are presented graphically, tabulated, or descriptively, however are not outlined with correct title or graphs/tables are incorrectly labelled with units. Few results presented, little evidence of understanding of what was done, what the results showed. No outline of the results.</p>	<p>2 marks Results are adequately presented The use of graphs/tables or descriptive results is adequate, however there is some information missing. There is adequate outline of the results.</p>	<p>3 marks Results are appropriately presented The use of graphs/tables or descriptive results is adequate, however there is some information missing. Clearly able to read graphs, and there is an outline of the results</p>	<p>4 marks Excellent presentation of descriptive results and/or graphs and tables are correctly labelled with correct units Results are clearly able to be read. Excellent outline and explanation of results.</p>
<p>Conclusions (4 marks)</p>	<p>1 mark Few conclusions drawn from the study. Poor attempt to interpret results and limitations of the study. Little ability to relate the results to other areas of interest. Unable to answer the questions and no evidence of relating to other areas of literature.</p>	<p>2 marks Adequate conclusions drawn from the study and some attempt to interpret results. Adequate ability to relate the results to other areas of interest. Could answer some questions but was not able to relate the answers to other areas of literature.</p>	<p>3 marks Very good conclusion that enables students to draw conclusions and interpretation results. Able to outline limitations of the study and provided very good outline of how the results could be applied to other areas of interest. Good answers to questions, however, with some attempt to relate to other areas in the literature.</p>	<p>4 marks Excellent conclusion that enables students to draw appropriate conclusions by interpreting their result. Show insight in outlining limitations of the study and how these may affect the results. Excellent insight that show how results apply to other areas of interest. Excellent answers to questions and able to relate</p>

				their results to the literature.
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Presentation Style (2 marks)	0.5 mark Did not keep in the time (12 minutes). Did not maintain eye contact with audience. Voice was not clear Did not engage the audience. Visual aids were absent. Little or no use of headings.	1 mark Kept to the time (12 minutes) At times eye contact with audience. At times voice was clear At times engaged the audience. Few visual aids Few headings evident	1.5 marks Kept to time (12 minutes) Good eye contact with audience Good clarity in voice. Good/Limited engagement with the audience. Adequate visual aids Adequate use of headings	2 marks Kept to time(12 minutes) Excellent clarity in voice. Excellent engagement with audience Excellent visual aids. Excellent use of headings.
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Assessors 1 Name: _____ Mark out of 20 _____

Assessor 1 Comments

Assessor 2 Name: _____ Mark out of 20 _____

Assessor 2 Comments
