

AS and A LEVEL PSYCHOLOGY

Lesson Element

Peer Review

Instructions and answers for teachers

These instructions should accompany the OCR resource 'Peer Review' activity which supports OCR AS and A Level Psychology.

**AS and A LEVEL
PSYCHOLOGY**

Lesson Element

Worksheet 1 Peer Review

Task 1
Publication is the goal of any research. Unless other people know of the research it is not useful. Typically research is first published in journals, these are stored in yearly volumes and they form a permanent scientific record.

When we read the research that has been published in journals we need to know that it is of good quality and hasn't simply been made up. In order to achieve this, research goes through a system of peer review.

The system of peer review

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graph TD; A[The system begins with the research paper being submitted to a journal for consideration for publication.] --> B[The editor of the journal examines the topic and sends the paper to other psychologists who are experts in the field.]; B --> C[Their critical appraisal of the work is returned with recommendations about suitability for publication.];
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To ensure high standards are maintained, the editor will either accept the research for publication, or suggest revisions should be made before resubmitting it or they may decide to reject the research altogether. Peer review acts as a control mechanism only allowing only high quality research to appear in the public domain.

Version 1

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Worksheet 2 Peer Review

Despite its best efforts, there are other problems of validating new knowledge. Complete the table below to describe how these issues can be causes of concern.

Production bias	
File drawer phenomenon	
Objectivity	

Extension: Stretch and Challenge

Preserving the Status Quo	
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Version 1

The Activity:

The key objectives are to familiarise students with:

- The purpose of the peer reviewing process
- The importance of the peer reviewing process
- Problems with validating new knowledge.

Associated materials:

'Peer Review' Lesson Element learner activity sheet.



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Introduction

Students are required to appreciate the role of the psychological community in validating new knowledge and ensuring integrity through the process of peer review.

When research is available to the public domain, we need to be assured that it is of good quality. The peer review process is a system where experts in the field review and validate this new knowledge.

Peer review acts as a control mechanism only allowing only high quality research to appear in the public domain.

Lesson Guidance

The lesson could begin with giving the students various forms of publication (magazine articles, scientific journals etc) and asking them to view the **similarities** and **differences** between them. Students could be asked a variety of questions including:

- How do you know that the research you are reading is valid?
- How do you know the results haven't just been made up?
- Which publication is the most objective? Why?
- What steps do you think should be taken to stop fraudulent research being published?

This should stimulate discussion as to the purpose of peer review and get students to consider the validity, objectivity and reliability of research findings.

Worksheet 1

The key objective is to familiarise students with:

- The purpose of the peer reviewing process
- The importance of the peer reviewing process.

The fundamental purpose of the system of peer review is to have quality control mechanisms in place to ensure only the highest quality of research is available to the public and to prevent fraudulent claims.

Students are required to know the steps involved in the peer review system.



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Activity

Researching the Cyril Burt Affair

To place peer review in context, it is useful for students to see the impact of its failure to detect fraudulent research.

The following websites have useful information on the case but a google search will return numerous articles.

<http://www.muskingum.edu/~psych/psycweb/history/burt.htm>

<http://intelltheory.com/burtaffair.shtml>

This could be completed as a class or homework activity.

Extension Task

There are numerous famous cases of professional misconduct, these are just a few examples:

<http://news.bbc.co.uk/1/hi/4763973.stm>

<http://news.bbc.co.uk/1/hi/health/8700611.stm>

<http://news.bbc.co.uk/1/hi/health/7465539.stm>

Each of these illustrate the three types of fraud; falsification, plagiarism and fabrication.

Worksheet 2

Although most people agree that the system of peer review is the best method of validating new research, it is not without its problems.

Students could be given the table and asked in groups to consider how the factors could affect the process. Differentiation could be achieved by varying the amount of information available to students to enable them to do this. For example, definitions could be given and students could be asked to apply them to peer review or the table left blank to stimulate independent thought.



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Worksheet 2 Answer Sheet

Production bias	This can take a variety of forms; gender bias (favouring the work of one gender), institution bias (favouring one institution's work over another) or that the reviewer may have a different viewpoint from the researcher.
File drawer phenomenon	This is where the peer review tends to favour positive results and as such those pieces of research where the null hypothesis has been supported, have been found to be rejected or 'filed in the draw'. This leads to an unrepresentative view of the findings.
Objectivity	Although all psychologists try to objective, a reviewer may favour an opposing view making them less likely to provide an unbiased view.

Extension: Stretch and Challenge

Preserving the status quo	It can be argued that science is conservative and resistant to large changes and so peer review could act to maintain the status quo. As such results that do not fit in with current knowledge may be rejected.
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Assessment

The following questions could be given as an activity to check students learning.

1. Outline the purpose of peer review.
2. Describe the process of peer review.
3. Outline one problem that may arise from a peer review.
4. Explain the role of the psychological community in ensuring integrity through the process of peer review.



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