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Critical Appraisal of Research at Level 7

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ACADEMIC STANDARDS AT MASTERS LEVEL

- Independent study and research
- Critical evaluation, analysis and synthesis of existing literature
- Appropriate research design
- Understanding of implications of research findings

WHAT WE EXPECT YOU TO BE ABLE TO DEMONSTRATE.....

- That you have a comprehensive understanding of the existing literature
 - knowledge of classic studies and theories
 - Understanding of how things have progressed in the field since then
 - Understanding of how any study (including your own!) fits into this existing literature and what it adds to it... And doesn't add!

THINKING CRITICALLY MEANS

- Examining different viewpoints
- Learn to think from different perspectives
- View those opinions which differ from yours
- Examine the assumptions of your own viewpoints and of others
- Avoid automatic responses

CRITICAL THINKING

- A process that evaluates ideas through the testing of statements (accuracy) and the soundness of reasoning behind them

CRITICAL THINKING

- Someone with this skill is able to:
- Understand the logical connections between ideas
- Detect inconsistencies and common mistakes in reasoning
- Solve problems systematically
- Reflect on the justification of one's own beliefs and values

CRITICAL THINKING

- Keep an open mind
- Identify key issues and raise questions
- Obtain relevant facts
- Evaluate the findings and form judgements

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HOW TO CRITICALLY EVALUATE RESEARCH ARTICLES

KEY QUESTIONS WHEN CRITICALLY ANALYSING A RESEARCH PAPER

- What is the main line of reasoning (the main argument)?
- What is the key evidence used to support the line of argument?
- When was the evidence produced? Is it up to date? Is it still relevant?
- Is the evidence presented in a way that develops the argument and leads clearly to the conclusion?

THE BASICS...

- Who are the authors?
- Where are they from?
 - Which university?
 - Which country?
- Was it a funded study?
 - If so who funded it?

THE BASICS...

- When was it published?
 - Old or new article?
 - “classic study”?
 - New theory/model?
- What journal is it published in?
 - Impact Factors/Prestige

THE STUDY

- What type of study is it?
 - Qualitative V Quantitative
 - Be wary of drawing conclusions from small qualitative studies
 - Qual studies tend to provide an in-depth understanding of a particular issue but cannot be easily generalised
 - Qual studies often extremely important if exploring a new/emerging area/issue (can inform future quantitative studies)

KEY QUESTIONS WHEN CRITICALLY ANALYSING A RESEARCH PAPER (QUALITATIVE OR QUANTITATIVE)

- What is the main line of reasoning (the main argument)?
- What is the key evidence used to support the line of argument?
- When was the evidence produced? Is it up to date? Is it still relevant?
- Is the evidence presented in a way that develops the argument and leads clearly to the conclusion?

METHODOLOGICAL CRITIQUE

- How could the study have been done better?
- Do the authors acknowledge the limitations of their work?
- No such thing as a perfect study!

WHAT ARE THE LIMITATIONS OF THE PAPER?

- How can I get the knowledge claims of the paper into some kind of perspective?
- What are the aspects of the paper that may be ambiguous and open to different interpretations, and point toward a need for further research?



A research study can be viewed as a piece of a mosaic – the pattern only emerges when standing and looking at the mosaic as a whole



SYNTHESISING THE LITERATURE...

- A single piece of research cannot just be considered on its own
- Important to view the piece in its relation to a broader picture
- A research study can be viewed as a piece of a mosaic – the pattern only emerges when standing and looking at the mosaic as a whole

DISCERNMENT & DEPTH

- How can I summarise the addition to knowledge that it represents?
- Describe your understanding of the paper and what it signifies.
- As a discerning reader it is necessary to come to a view on the extent to which you agree with the authors' conclusions
- Furthermore an even more nuanced – deeper, wider, insightful, creative, knowledgeable – understanding of the value of the paper

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CRITICAL APPRAISAL OF QUALITATIVE RESEARCH

CRITICAL APPRAISAL OF QUALITATIVE STUDIES

- What type of study is it?
 - Be wary of drawing conclusions from small qualitative studies
- Qual studies tend to provide an in-depth understanding of a particular issue but cannot be easily generalised
- Qual studies often extremely important if exploring a new/emerging area/issue (can inform future quantitative studies)

THE STUDY

The sample

- Small or large sample size?
- *How generalisable are the results?*
- *Who were included/excluded?*
- *What were the characteristics of the sample?*
- *(how representative are they?)*

THE ANALYSIS

- Are the research questions and analyses clearly explained?
- How valid do the results seem to be?
- How reliable do the results seem to be?
 - Researcher bias?
 - Failure to consider alternative positions or frameworks?

CRITICAL INGREDIENTS OF QUALITATIVE ANALYSIS

- **Analysis must be systematic**
- **Analysis must be verifiable**
- **Analysis requires time**
- **Analysis is jeopardised by delay**
- **Analysis should entertain alternative explanations**
- **Analysis is improved by feedback**
- **Analysis is a process of comparison**

CRITICAL INGREDIENTS OF QUALITATIVE ANALYSIS

- Analysis must be systematic
- Analysis must be verifiable
- Analysis requires time
- Analysis is jeopardised by delay
- Analysis should entertain alternative explanations
- Analysis is improved by feedback
- Analysis is a process of comparison
- Analysis is situationally responsive

Does the paper you are appraising demonstrate that these standards have been met?



Ways of increasing the quality and credibility of findings from qualitative research:

- Prolonged engagement & persistent observation in the field
- Triangulation – making use of multiple and different sources, methods, theories etc
- Peer-review/de-briefing – external check of research process

Ways of increasing the quality and credibility of findings from qualitative research:

- Negative case analysis – refine working hypotheses as the inquiry advances in light of disconfirming evidence
- Clarifying researcher bias from the outset
- Member checks/participant validation
- Rich thick description – allow reader to assess accuracy
- External audits

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CRITICAL APPRAISAL OF QUANTITATIVE RESEARCH

THE STUDY

- What type of study is it?
 - Quantitative?
 - Meta-analysis?
 - Experimental?
 - Cross-sectional V longitudinal?
 - Issues: re predictions
 - Nb correlation does not equal causation
 - Randomised Controlled Trial?
 - Sufficient numbers/controls in place?

THE STUDY

The sample

- Small or large sample size?
- *How generalisable are the results?*
- *Who were included/excluded?*
- *What were the characteristics of the sample?*
- *(how representative are they?)*

THE ANALYSIS

- Are the research questions and analyses clearly explained?
- Are hypotheses clear and justified?
- How valid do the results seem to be?
- How reliable do the results seem to be?
 - Were the statistics appropriate/robust?

THE DATA

- What type of data is collected?
 - Standardised psychometric scales?
 - Valid? Reliable? Robust?
 - Experimental data (reaction times, IATs etc)
 - Tests of models and theories?

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CRITICAL APPRAISAL OF YOUR OWN WORK!

CRITICALLY APPRAISING YOUR OWN WORK!

- The same principles apply to your own research study/dissertation
- Your discussion needs to reflect a significant level of critical thinking/analysis/evaluation about your own study!

CRITICALLY APPRAISAL IN YOUR OWN WORK!

- An essay or literature review needs to reflect the ability to synthesis key issues/studies/theories in a meaningful way, identifying gaps, weaknesses and shortfalls.
- A discussion of a research study/dissertation needs to reflect a significant level of critical thinking/analysis/evaluation about your study study!

DISCUSSION

- How can I summarise the addition to knowledge that my study represents?
- Describe your understanding of your findings and what they signify.
- A nuanced – deeper, wider, insightful, creative, knowledgeable – understanding of the value of your research

DISCUSSION: CRITICALLY ANALYSING YOUR OWN WORK!

- What were your key findings?
- How do these relate to the aims of your study i.e., what are the implications of these findings for theory and practice (where appropriate)
- How robust are these findings? Methodological considerations/limitations
- Which theories/literature do your findings provide support for? Which ones do they not support? Why?
- Where should research go next?

HOW DO YOU LEARN TO DO THIS?

- Practice
- Reading
- Practice
- Reading
- Practice
- Reading

RECOMMENDED TEXT

- Wallace, M. & Wray, A. (2016). Critical reading and writing for postgraduates. London: SAGE.