Enabling students to achieve the research project component of IFOMPT standards

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Importance of this topic

• Research project is a requirement of OMT postgraduate programmes (IFOMT, 2000; 2008)
• Two environments of OMT programmes present challenges
  – University MSc
  – Non university programme
• Varied experience of OMT teachers in supervising research

Aim of presentation

• To clarify the requirements of the OMT research project
• To explore 3 key issues for us as teachers to enable student research projects:
  – Defining an appropriate research question
  – Selecting appropriate methodology / methods
  – Effective supervision of the research project
REQUIREMENTS OF THE OMT RESEARCH PROJECT

IFOMPT Standards 2008: Dimension 9

<table>
<thead>
<tr>
<th>Competencies relating to knowledge</th>
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<tbody>
<tr>
<td>Demonstrate critical understanding of common quantitative research designs, including strengths and weaknesses</td>
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<td>Demonstrate critical evaluation of ethical considerations relating to human research</td>
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<tr>
<th>Competencies Relating to Skills</th>
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<tr>
<td>Demonstrate effective critical appraisal of research relevant to OMT Physical Therapy practice as it relates to NMS dysfunction</td>
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<td>Demonstrate generation of a research question based on a critical evaluation of the current literature relevant to OMT Physical Therapy practice and relating to NMS dysfunction</td>
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<td>Demonstrate development of a research proposal which meets the requirements of a human ethics committee as appropriate</td>
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<td>Demonstrate selection and application of appropriate data analysis procedures</td>
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<td>Demonstrate effective execution of a research project and dissemination of its conclusions</td>
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<th>Competencies Relating to Attributes</th>
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<tr>
<td>Demonstrate appreciation of the need for the development of further evidence in OMT Physical Therapy practice through research</td>
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<td>Demonstrate critical awareness of the role of research in advancing the body of knowledge in OMT Physical Therapy</td>
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Definition of a research project (IFOMT, 2008)

- A process of systematic enquiry that provides new knowledge, aimed at:
  - Understanding the basis and mechanism of NMS dysfunction, or
  - Improving the assessment and/or management of NMS dysfunction
- The process of enquiry is designed to address a research question

KEY ISSUE FOR US AS TEACHERS TO ENABLE STUDENT RESEARCH PROJECTS:

DEFINING AN APPROPRIATE RESEARCH QUESTION
Research question

• The core of a research project
• Identifies the gap in existing knowledge that the research project attempts to fill  
  (Sim and Wright, 2000)
• Guides every aspect of the project
  – literature review, methodology, design, methods, analysis, discussion etc

Aim of the research priorities project
(Rushton and Moore, 2010)

• To identify international research priorities for postgraduate projects in OMT
• Consensual Delphi method
Round 1
Requested ≥10 priorities for projects. Content analysis.

Round 2
Requested that participants rate the importance of each theme on a 1-5 scale.

Round 3
Requested that participants rate the importance and feasibility of 159 research question areas.

Feedback
✓ themes
✓ sub themes

Feedback
✓ continued themes
✓ research question areas

Participants

• Purposive sample of Course Tutors and Clinical Experts
  – Researcher and research consumers (Marshall, 2004)

• 10/20 Member Organisation countries of IFOMPT (in 2007)
  – 30/39 course tutors
  – 42/52 clinical experts
Findings

• 12 research themes agreed as important
• Consensus for 43/159 research question areas identified as important and feasible
• Discrimination was demonstrated
  – Rating of feasibility was essential to process

Consensus of agreement for research question areas

<table>
<thead>
<tr>
<th>Research themes (n=12)</th>
<th>Number of research Q areas in each theme</th>
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<tbody>
<tr>
<td>Personal Development</td>
<td>17</td>
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<tr>
<td>Epidemiology</td>
<td>10</td>
</tr>
<tr>
<td>Normative data collection</td>
<td>15</td>
</tr>
<tr>
<td>Biomechanics</td>
<td>11</td>
</tr>
<tr>
<td>Reliability of assessment tools</td>
<td>3</td>
</tr>
<tr>
<td>Validity of assessment tools</td>
<td>9</td>
</tr>
<tr>
<td>Outcome measures</td>
<td>13</td>
</tr>
<tr>
<td>Examination, assessment and diagnosis</td>
<td>13</td>
</tr>
<tr>
<td>Classification / subgroups / profiling syndromes</td>
<td>10</td>
</tr>
<tr>
<td>Mechanism of action of treatment</td>
<td>7</td>
</tr>
<tr>
<td>Clinical effectiveness</td>
<td>23</td>
</tr>
<tr>
<td>Patient focused research</td>
<td>20</td>
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Reliability of assessment tools theme

<table>
<thead>
<tr>
<th>Research question areas</th>
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<tbody>
<tr>
<td>What is the intra-rater reliability of a broad range of assessment tools?</td>
</tr>
<tr>
<td>What is the inter-rater reliability of a broad range of assessment tools?</td>
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<tr>
<td>What is the accuracy of a broad range of assessment tools?</td>
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KEY ISSUE FOR US AS TEACHERS TO ENABLE STUDENT RESEARCH PROJECTS:

SELECTING APPROPRIATE METHODOLOGY AND METHODS
Methodology and methods

• Range of methodological perspectives and methods including:
  – literature review, qualitative, and quantitative approaches (IFOMPT, 2008)
• Thematic analysis explored insights from open questions in the Delphi study
  – Useful research methodologies, included:
    • Single case study / multiple case studies
    • Literature reviews - qualitative or systematic review
    • Pilot RCT, Delphi, cross sectional, epidemiological, correlational
  – Feasibility and quality were key issues

KEY ISSUE FOR US AS TEACHERS TO ENABLE STUDENT RESEARCH PROJECTS:

EFFECTIVE SUPERVISION OF THE RESEARCH PROJECT
Supervision

• Three functions proposed
  • Normative (administrative)
  • Formative (educational)
  • Restorative (supportive)
  (Proctor, 1987)

Developing good supervision

• Enabling peer support
• Group supervision by one supervisor
• Teams e.g. group projects
• Research culture
  (Conrad 2003)

• Preparation / development of the supervisor
  (Brew & Peseta, 2004)
• Process of matching students with supervisors
  (Marsh et al, 2002)
• Avoid and overcome dissonance
  (Wisker et al, 2003)
Warning signs of problems

- Personal issues
- Supervision relationship issues
- Research project issues
- Not accessing the research culture (disinterested?) (Manathunga 2005)
- Lack of progress
- Lack of preparation for meetings

Tips

- Students require caring attitude, substantive feedback, & subject knowledge in their supervisors
- The relationship between supervisor and student is as important as the process of research supervision
- Avoid student dependency
  - Part-time students are prone to dependency
  - Process should be facilitatory

(Kam 1997)
Tips continued...

- Flexibility of approach - ability to modify approach as required
- Adapt approach to different students
- Planning
- Criticality

- Process of supervision is facilitated by a research culture
- Raises issues for non university courses

Take home messages

- Research project is an important component of OMT programmes
- Careful definition of the research question and selection of an appropriate methodology / methods is important
- Effective supervision is essential
- Development of supervisors needs to be a key focus of OMT programmes
- Prioritised research question areas emphasise preliminary work and the value of OMT student research projects to our developing evidence base

(Rushton and Moore, 2009)
References


