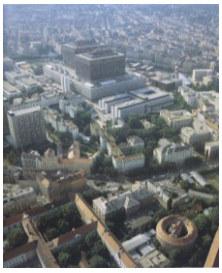
Richard Marz

MEDINE 2 – WP7

Result of the survey on research competences in the medical curriculum



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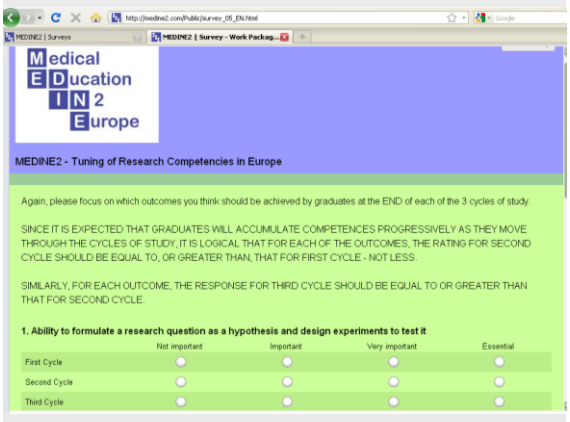

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Tuning of Research Competencies

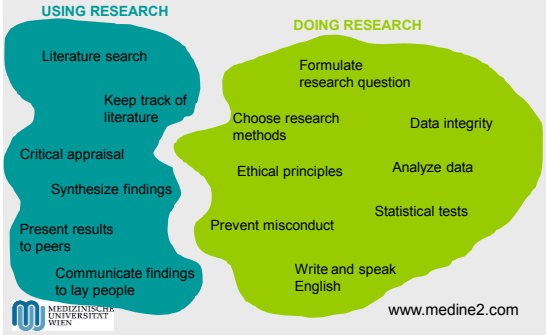
- Survey open June 2011 – May 2012
- 31 questions
- 421 respondents
- Subgroup analysis shows strong agreement of judgements
- "Leik measure of ordinal consensus" was used to test the degree of agreement for each individual item
  <0,2 = poor; >0,8 = good

Tuning of Research Competencies (1)

Competences at the end of the ***second*** cycle

Question	QKey	Leik Measure	median	% not important
Ability to use computers effectively	31.2	0.644	4	0,8
Ability to define and carry out an appropriate literature search	2.2	0.673	3	1,0
Ability to synthesize findings and draw conclusions	16.2	0.666	3	3,1
Ability to recognize, discuss and prevent scientific misconduct	9.2	0.610	3	3,3
Ability to maintain confidentiality and protect data	11.2	0.533	4	3,3
Ability to write and speak in English	30.2	0.551	3	3,5
Ability to critically appraise published medical literature including observational, interventional, and meta analysis using established critical appraisal guidelines	4.2	0.629	3	4,2
Ability to analyze research findings (qualitative or quantitative data)	14.2	0.653	3	4,3
Ability to apply ethical principles and analysis to research, seeking ethical approval where appropriate	8.2	0.546	3	4,6
Ability to keep track of the pertinent scientific literature	3.2	0.623	3	4,8

Categories of competencies in questionnaire



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Tuning of Research Competencies (1)

Competences at the end of the second cycle

Question	QKey	Leik Measure	median	% not important	Using research	Doing research
Ability to use computers effectively	31.2	0.644	4	0,8		
Ability to define and carry out an appropriate literature search	2.2	0.673	3	1,0	■	
Ability to synthesize findings and draw conclusions	16.2	0.666	3	3,1	■	
Ability to recognize, discuss and prevent scientific misconduct	9.2	0.610	3	3,3		■
Ability to maintain confidentiality and protect data	11.2	0.533	4	3,3		■
Ability to write and speak in English	30.2	0.551	3	3,5		■
Ability to critically appraise published medical literature including observational, interventional, and meta analysis using established critical appraisal guidelines	4.2	0.629	3	4,2	■	
Ability to analyze research findings (qualitative or quantitative data)	14.2	0.653	3	4,3		■
Ability to apply ethical principles and analysis to research, seeking ethical approval where appropriate	8.2	0.546	3	4,6		■
Ability to keep track of the pertinent scientific literature	3.2	0.623	3	4,8	■	

Tuning of Research Competencies (2)

Competences at the end of the second cycle

Question	QKey	Leik Measure	median	% not important	Using research	Doing research
Ability to select and carry out appropriate statistical tests and interpret the results	15.2	0.616	3	5,9		
Ability to formulate a research question as a hypothesis and design experiments to test it	1.2	0.603	3	6,6		
Ability to present research results obtained by others, e.g. in a journal club	21.2	0.596	3	6,9		
Ability to present research results to peers, e.g. in scientific meetings	19.2	0.584	3	8,1		
Ability to contribute effectively to a research team	26.2	0.538	3	8,6		
Ability to obtain and record informed consent for participation in research	10.2	0.522	3	8,7		
Ability to choose the appropriate qualitative or quantitative research method	7.2	0.549	3	9,9		
Ability to carry out research on medical practice	13.2	0.531	3	12,2		
Ability to communicate scientific findings to lay people	28.2	0.514	3	12,2		

Competences end of the second cycle

Question	QKey	Leik Measure	median	% not important
Ability to use computers effectively	31.2	0.644	4	0,8
Ability to define and carry out an appropriate literature search	2.2	0.673	3	1,0
Ability to synthesize findings and draw conclusions	16.2	0.666	3	3,1
Ability to recognize, discuss and prevent scientific misconduct	9.2	0.610	3	3,3
Ability to maintain confidentiality and protect data	11.2	0.533	4	3,3
Ability to write and speak in English	30.2	0.551	3	3,5
Ability to critically appraise published medical literature including observational, interventional, and meta analysis using established critical appraisal guidelines	4.2	0.629	3	4,2
Ability to analyze research findings (qualitative or quantitative data)	14.2	0.653	3	4,3
Ability to apply ethical principles and analysis to research, seeking ethical approval where appropriate	8.2	0.546	3	4,6
Ability to keep track of the pertinent scientific literature	3.2	0.623	3	4,8

Ability to apply scientific principles, method and knowledge to medical practice and research

Proposed cycle 3 outcomes

Question	QKey	Leik Measure	median	% not important
Ability to select and carry out appropriate statistical tests and interpret the results	15.3	0.738	4	2.1
Ability to formulate a research question as a hypothesis and design experiments to test it	1.3	0.823	4	0.8
Ability to present research results obtained by others, e.g. in a journal club	21.3	0.636	4	0.8
Ability to present research results to peers, e.g. in scientific meetings	19.3	0.777	4	1.0
Ability to contribute effectively to a research team	26.3	0.673	4	1.3
Ability to obtain and record informed consent for participation in research	10.3	0.701	4	1.0
Ability to choose the appropriate qualitative or quantitative research method	7.3	0.719	4	1.2
Ability to propose and carry out the next step in a research project	17.3	0.640	4	1.8
Ability to write a scientific paper suitable for publication	20.3	0.793	4	1.8

Tuning of Research Competencies (4)

Changes from the end of the second to the third cyc

Question	QKey	Leik Measure	median	% not important
Ability to carry out laboratory procedures	6.2	0.548	2	19.9
	6.3	0.452	3	9.7
Ability to carry out research on medical practice	13.2	0.531	3	12.2
	13.3	0.566	3	2.3
Ability to communicate scientific findings to lay people	28.2	0.514	3	12.2
	28.3	0.575	3	2.4
Ability to propose and carry out the next step in a research project	17.2	0.546	2	15,7
	17.3	0.640	4	1,8

Rotated Component Matrix[a]

Competencies at the end of the second cycle	Component 1	2	3	4	5
Ability to formulate a research question as a hypothesis and design experiments to test it	,276	,622	,191	,083	,024
Ability to define and carry out an appropriate literature search	-,143	,483	,311	,364	,182
Ability to keep track of the pertinent scientific literature	,201	,505	,302	,295	,076
Ability to critically appraise published medical literature including observational, interventional, and meta analysis using established critical appraisal guidelines	,036	,452	,263	,436	-,205
Ability to design a research project, including project planning and allocation of resources	,492	,629	,131	,017	,042
Ability to carry out laboratory procedures	,271	,581	,151	-,214	,344
Ability to choose the appropriate qualitative or quantitative research method	,275	,685	,289	,103	,063
Ability to apply ethical principles and analysis to research, seeking ethical approval where appropriate	,199	,369	,632	,046	,114
Ability to recognize, discuss and prevent scientific misconduct	,143	,218	,731	,175	,086
Ability to obtain and record informed consent for participation in research	,236	,323	,758	,083	,116
Ability to maintain confidentiality and protect data	,106	,073	,682	,332	,286
Ability to apply national and European law to research	,367	,310	,532	,097	,035
Ability to carry out research on medical practice	,432	,516	,224	,115	,056
Ability to analyse research findings (qualitative or quantitative data)	,149	,649	,198	,373	,161
Ability to select and carry out appropriate statistical tests and interpret the results	,187	,650	,232	,190	,135
Ability to synthesize findings and draw conclusions	,180	,527	,187	,464	,228
Ability to propose and carry out the next step in a research project	,478	,569	,198	,197	,153
Ability to disseminate research findings	,488	,459	,197	,387	-,072
Ability to present research results to peers, e.g. in scientific meetings	,509	,303	,235	,378	,149
Ability to write a scientific paper suitable for publication	,598	,493	,025	,210	,165
Ability to present research results obtained by others, e.g. in a journal club	,280	,171	,214	,577	,240
Ability to contribute to research-funding proposals	,703	,239	,146	,234	,047
Ability to write research-funding proposals	,765	,295	,094	,146	,105
Ability to supervise research students	,800	,110	,127	,087	-,017
Ability to supervise laboratory technicians	,795	,104	,123	,023	,062
Ability to contribute effectively to a research team	,493	,373	,243	,083	,252
Ability to lead a research team	,745	,123	,191	-,009	,074
Ability to communicate scientific findings to lay people	,367	,084	,115	,621	,188
Ability to critically evaluate research proposals	,679	,196	,113	,339	,093
Ability to write and speak in English	,088	,143	,105	,088	,800
Ability to use computers effectively	,059	,104	,209	,196	,800

Extraction Method: Principal Component Analysis.
a. Rotation converged in 11 iterations.

1: supervise, senior
2: doing research
3: ethics
4: presentation
5: computer, english

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Thank you!

Please participate in the discussion