

Medical Education

Development of a structured validated module to inculcate research skills in medical undergraduates

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SUPPLEMENTARY TABLE I. Face validation of the module by 10 external experts

| <i>Format and presentation</i> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--|---|---|---|---|---|---|---|---|---|----|
| Well-organized, logical and sequential flow of topics | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Clear and easy language to understand | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Attractive and interesting student engagement activities | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Unique and original approach | Y | Y | Y | Y | Y | N | Y | Y | Y | Y |
| Well-suited to time availability | Y | Y | Y | N | Y | Y | Y | Y | Y | Y |
| Executable with minimum facilities and equipment | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Quality information | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |

Y Yes N No

SUPPLEMENTARY TABLE II. Content validation of the module by 10 external experts

| Criteria | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | I-CVI | C-CVI |
|---|---|---|---|---|---|---|---|---|---|----|-------|-------|
| <i>Learning objectives</i> | | | | | | | | | | | | |
| Specific and clearly stated | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.96 |
| Measurable | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.90 | |
| Attainable | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Relevant to student curriculum | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Achievable in the time specified | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0.90 | |
| <i>Scientific content</i> | | | | | | | | | | | | |
| Relevant and aligned to the learning objectives | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Covers all aspects of the sessions | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Equal emphasis on all sub-sessions | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Includes sufficient examples and exercises | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Sufficient resources provided | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| <i>Teaching methodology and assessment</i> | | | | | | | | | | | | |
| Aligned to learning objectives | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.98 |
| Learner-centred approach | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Appropriate and relevant | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Competency attainment approach | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Includes sufficient feedback | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.90 | |
| <i>Effectiveness of the module</i> | | | | | | | | | | | | |
| Will motivate students to be involved in research | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.96 |
| Can be used for SDL at a later stage by students | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.90 | |
| Develop analytical thinking in students | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.90 | |
| Guide facilitators for teaching research to UGs | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Relevant to CBME curriculum | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

SDL self-directed learning UG undergraduate CBME competency-based medical education