

Title: Appraisal of the practical curriculum of medical biochemistry for undergraduate medical students

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Context and setting: The curriculum planned by our University is discipline based and hardly any systematic review of the curriculum occurs. The practical curriculum of biochemistry for undergraduate medical students is no exception and hence needed to be reviewed.

Why the idea was necessary: There has been a growing discontent among the students and the faculty members regarding the concept, objectives and assessment of biochemistry practical. Therefore, it was felt appropriate to conduct a needs assessment, which can serve as a platform to subsequent changes.

What was done: The study was divided into three stages:

- 1) **Appraisal:** 50 of 200 randomly selected biochemistry faculty members were administered a prevalidated 12 item questionnaire. Suggestions for betterment of the curriculum were also sought. Responses were rated on a 4 point and 2 point Likert scale respectively depending on the items. A minimum percentage of 75% was set for general agreement on any particular item as per Tigelaar *et al* 2004. Evaluation based on perceptions of students about the current curriculum was obtained through focused discussions. The current curriculum was analyzed according to Kern's model of curriculum evaluation framework.
- 2) **Modified curriculum development:** Triangulation of qualitative and quantitative data from all the sources was done. A sequential framework prepared from mixed theory approach was used to prepare a modified curriculum development.
- 3) **Implementation:** The introduction of checklists to assess the students for the practicals was one of the modifications suggested in the survey in order to make the assessment more objective. So, checklists were formulated and as a pilot study one such checklist was used. Training was given to the faculty and was evaluated by Kirkpatrick's evaluation model. The students were assessed by using both, the conventional method and the checklist.

Evaluation of results: The questionnaire was analyzed for evidence of reliability. Cronbach's alpha coefficient was 0.85. Faculty response rate was 78%. Suggestions from the students were taken into account. Data from all the sources (faculty, students and Kern's framework) revealed strengths and weaknesses. Commitment, dedication and clinical experience of teaching faculty, good infrastructure and facilities emerged as strengths. On the other hand, there was a complete absence of formal need assessment. Organization of the course objectives was inconsistent and there was no avenue to incorporate new ideas to improve the curriculum.

Based on this, the modified curriculum was prepared which aligned the objectives with the teaching – learning methods and assessment. It also emphasized the honing of the students interpretative skills.

Three levels of Kirkpatrick's evaluation were achieved for the training of the checklist. Reaction was assessed by feedback from faculty, learning was judged by comparing the student's scores with and without checklist ($p < 0.001$, $t -2.92$). Uniformity in marking was achieved by using the checklist. The faculty used the checklist for subsequent practical assessments indicating change in behavior.

Impact:

- 1) Suggestions of faculty and students have been submitted to the Medical Council of India (MCI) which is in the process of modifying the curriculum.
- 2) The faculty has begun using the checklist, indicating its acceptability.

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