How Do Pre-clinical Medical Students Define Self-Directed Learning?

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Introduction

• The Liaison Committee on Medical Education (LCME) requires allotment of unscheduled time for self-directed learning to facilitate the development of lifelong learning skills.

• The LCME’s definition of self-directed learning includes an educational needs self-assessment, individual mastery of information, resource credibility assessment, and subsequent feedback.²

Objective

• To determine the medical student perspective and understanding of self-directed learning during the pre-clinical curriculum.

Methods

• Assessed second-year (n = 10), first-year (n = 10), and newly matriculated (n = 7) medical students’ understanding by asking them to identify the meaning of self-directed learning.

• Facilitated two focus groups per pre-clinical year using nominal group technique.¹

• Qualitative answers with their numerical scores were then compared within and between each class.

• Self-regulated learning theory was used as a model incorporating overarching themes of planning, learning, assessment, and adjustment.³

Results

<table>
<thead>
<tr>
<th>Rank</th>
<th>Self-Directed Learning Definition</th>
<th>Pre-clinical Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Self-knowledge to identify how I learn best</td>
<td>2nd-year (MS2)</td>
</tr>
<tr>
<td></td>
<td>Learning led and directed by students based on what works best for the student</td>
<td>1st-year (MS1)</td>
</tr>
<tr>
<td></td>
<td>Student knows what they want to achieve and are independent to get there as they choose</td>
<td>Newly Matriculated (New)</td>
</tr>
<tr>
<td>2</td>
<td>Student selects method for achieving a provided learning objective</td>
<td>The learner works independently at their/their unique pace</td>
</tr>
<tr>
<td></td>
<td>Student knows the goals, resources, and limits are of the task</td>
<td>You set your own pace and plan</td>
</tr>
<tr>
<td></td>
<td>Involves work that should be presented by faculty, but mastery occurs through the student using materials</td>
<td>Creating your own study plan with specific goals, objectives, and timelines</td>
</tr>
<tr>
<td>3</td>
<td>Building a personalized mental model of academic context for future experiences</td>
<td>Learning using one’s own methods without being tied to a single source (e.g., PowerPoint, lecture, etc.) This may involve a combination of video, textbook reading, flashcards, etc.</td>
</tr>
<tr>
<td></td>
<td>Identifies study resources to reach a goal (materials or resources)</td>
<td>Not attending mandatory and reviewing recorded lectures on my own</td>
</tr>
<tr>
<td></td>
<td>Involves work that should be presented by faculty, but mastery occurs through the student using materials</td>
<td>Personal accountability</td>
</tr>
<tr>
<td></td>
<td>Goals being made clear and given a standardized list of resources</td>
<td>Active learning</td>
</tr>
</tbody>
</table>
|      | MS2 Learning Planning New | MS1 Learning

Discussion

When defining self-directed learning, a gradient of transition from planning goals of education to using learning strategies is apparent from initial matriculation to the second year of pre-clinical curriculum without regard to assessment or adjustment.

Notably, students interpreted self-directed learning in the context of achieving faculty-defined objectives rather than defining their own learning outcomes. This poses a potential disconnect from the intention to facilitate development of lifelong learning skills.

In conclusion, the pre-clinical curriculum must better emphasize the purpose and components of self-directed learning in addition to allotting sufficient time for achievement to encourage unified understanding of self-directed learning and development of lifelong learning skills.

The limitations of this study include the small sample size of the focus groups and confinement to one institution. Future studies could broaden the sample size, include multiple institutions, and incorporate medical students in the clinical years to further stratify the development and evolution of the meaning of self-directed learning.

Nominal Group Technique

- Posed the question: What is the meaning of self-directed learning?
- Students instructed to work independently, think broadly, and record responses
- Each individual’s answers collected
- Facilitator displayed the list of unedited student answers
- Students instructed to discuss responses for clarification only
- Students discussed elimination of duplicates and response meaning
- Students instructed to independently select top three responses
- Students rank three responses assigning 3 points to the most important and 1 point to the least important of the three

Assessment
- Self-monitoring and self-assessment

Planning
- Goal setting
- Self-efficacy

Learning
- Learning strategies
- Principles and methods

Reference


2. Liaison Committee on Medical Education. (2019, March). Functions and Structure of a Medical School: Standards for Accreditation of Medical Education Programs Leading to the MD Degree. Retrieved October 16, 2019, from https://lcme.org/publications/#Standards


References


2. Liaison Committee on Medical Education. (2019, March). Functions and Structure of a Medical School: Standards for Accreditation of Medical Education Programs Leading to the MD Degree. Retrieved October 16, 2019, from https://lcme.org/publications/#Standards