Life-long learning requires self-directed learning skills. The LCME (Standard 6.3) recognizes the importance of life-long learning and now requires medical schools to ensure that the medical curriculum includes self-directed learning experiences. To address self-directed learning skills and the LCME standard, we developed the Individual Learning Plan (ILP) requirement for the third-year surgical clerkship.

Individual Learning Plans Support Self-Directed Learning and Contribute to Improved Education Outcomes in the Surgery Clerkship

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INTRODUCTION

- Life-long learning requires self-directed learning skills.
- The LCME (Standard 6.3) recognizes the importance of life-long learning and now requires medical schools to ensure that the medical curriculum includes self-directed learning experiences.
- To address self-directed learning skills and the LCME standard, we developed the Individual Learning Plan (ILP) requirement for the third-year surgical clerkship.

METHODS

- ILP design
  - Starting in 2014, students were asked to identify a surgery-related topic that they felt would not be sufficiently covered during their 8-week clerkship.
  - Students used the Web Initiative for Surgical Education (WISE-MD) online modules to address the selected knowledge gap.
  - Students then formulated an essay or crafted a multiple-choice, board-style question (MCQ) with explanations for each answer related to the topic.
  - Students were required to submit 2 ILPs for review.
  - Beginning in 2015, we surveyed students following their clerkship to collect the following data regarding ILPs:
    - Impact on knowledge, clinical skills, and NBME Surgery Subject Exam (SSE) preparedness.
    - Comparison of learning effectiveness to traditional didactic sessions.
    - Student perception of overall educational value.
  - Mean scores for the SSE were compared before and after ILP implementation. Cohen’s d test was utilized to determine effect size. Statistical analysis generated with IBM® SPSS® 24.0.
  - Starting in 2016, fourth-year students completing a surgery internship (AI) or surgery elective (SE) were surveyed regarding the ILP requirement and independent learning skills.

RESULTS

- A total of 788 ILP submissions were received from 394 students.
  - 61% were essays and 39% were MCQs.
  - 165 clerkship students answered the survey questions (100%).
  - The majority of students felt that the ILPs improved their medical knowledge (82%), patient care skills (80%), and preparedness for the NBME SSE (81%). (Figures 1, 2, and 3).
  - Most students (80%) rated the ILP as equally or more effective than traditional didactic lectures.
  - 58% of students rated the educational value of ILPs as high or exceptionally high, while an additional 32% rated it as average educational value.

- The most frequently selected WISE-MD modules (Figure 4) were: trauma resuscitation (14%), burn management (13%) and breast cancer (9%).
- Mean scores for the SSE increased the year following implementation of the ILP requirement (74.9 vs 76.8; p=0.04; d=0.21).
- 20 fourth-year students in AIs completed the follow-up survey regarding the ILP requirement and their independent learning skills.
  - 95% agreed/strongly agreed that the surgery clerkship had helped students develop independent learning skills.
  - 80% felt the ILP requirement was effective or very/highly effective in helping students develop independent learning skills.
  - 100% agreed/strongly agreed that they could independently identify their own knowledge gaps.
  - 100% agreed/strongly agreed that they had acquired independent learning skills for lifelong learning.
- An additional 12 fourth-year students in SEs completed the survey.
  - There was no statistical difference in results between AI students and SE students (Mann-Whitney U-tests).

CONCLUSIONS

- Implementation of self-directed ILPs has helped students learn to address perceived knowledge gaps while supporting the LCME standard for students to develop skills of life-long learning.
- Fourth-year medical students at MCW reported that the surgical clerkship, and specifically the ILP requirement, helped them develop independent learning skills.
- In addition to addressing independent learning skills, students perceive ILPs as having strong educational value by improving medical knowledge, patient care skills, and preparedness for the NBME SSE.
- The ILP requirement may be associated with higher NBME SSE scores.
- The majority of students consider ILPs to be equally or more effective than traditional didactic lectures. ILPs could be used as educational adjuncts at regional or remote campuses as the 3-year campuses recently established at MCW.
- The ILP requirement has been a well-received and effective educational tool that fosters the acquisition of self-directed learning skills that supports life-long learning.

REFERENCES


http://www.lcme.org/publications

Medical Education Programs Leading to the M.D. Degree.

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