Librarian Feedback Loops Improve Medical Student Self-Directed Learning Skills

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Introduction

One component of self-directed learning (SDL) is for students to receive feedback on their information seeking skills, and librarians were tasked with doing so on some of the new SDL projects beginning in Spring 2018. Our goal was to determine if the librarian feedback leads to longitudinal improvements in students’ information seeking skills.

Methods

All students in MCW medical school participate in at least 2 SDL projects per year in the M1 and M2 years. In some projects, students answer specific questions about their research process. Answers to these questions go to a team of librarians for review.

Librarians analyzed the information seeking components of students’ SDL projects, including their search strategies and reference lists. They used a rubric to assess the strengths and weaknesses of students’ efforts in these areas and they provided feedback via email to students. Not all SDL projects involved librarian feedback. Librarian feedback is informational only and does not count toward the final project grade. The goal of the feedback is for students to learn from librarians without being penalized on their grades.

In the M1 IAHI course, 140 students participated in the (then) voluntary SDL project. 127 students submitted a similar SDL project during their M2 year. Of the students who received librarian feedback in their M2 year, we compared the rubric scores between those who also received feedback in their M1 year and those who had not.

We looked for improvement in 3 categories: search strategy, appropriate selection of finding tools, and use of high quality information sources. Librarians used the following scores for each category:

1. Needs improvement
2. Competent work
3. Excellent

Feedback Examples

Students demonstrated proficiency in their information seeking behavior which improved further with librarian feedback.

Librarian feedback on first year SDL projects had a strong effect on students’ second year projects, which demonstrated improvement in creating search strategies, using appropriate resources, and assessing resource quality.

Feedback Examples

"Consider using Boolean operators to construct your search: premenopause AND postmenopausal AND estrogen AND (cholesterol OR lipids OR LDL)"

"Your PubMed search brought up a lot of results! In order to get a more manageable number of results, consider using more defined keywords or use quotes to combine words. ("Estrogen Therapy" OR "Hormone Therapy") AND ("Heart Disease" OR "Cardiovascular disease")"

"You found some good articles that looked at large groups of people and the evidence you found was corroborated. The study about the EFOPS trial was from 2004. Did you know that there is a more recent article from this study that is a 16 year follow-up?"

"The websites you cited are more for patients than health professionals. If you have the time, use more scholarly, peer reviewed sources like journal articles or book chapters."

"I like your use of Dr. Lee as a source. An additional source you might consider using is Natural Medicines. This is a new database in the library, and it provides evidence-based overviews on natural medicines, supplements and alternative health. Natural Medicines also has patient handouts which are a great way to convey information to your patients."

Results

Assessment of resource quality
M2 FPP-MSS

STUDENTS WHO RECEIVED LIBRARIAN FEEDBACK IN M1 IAHI

STUDENTS WHO DID NOT RECEIVE LIBRARIAN FEEDBACK IN M1 IAHI

Cohen’s d effect: .67 that librarian intervention was effective!