

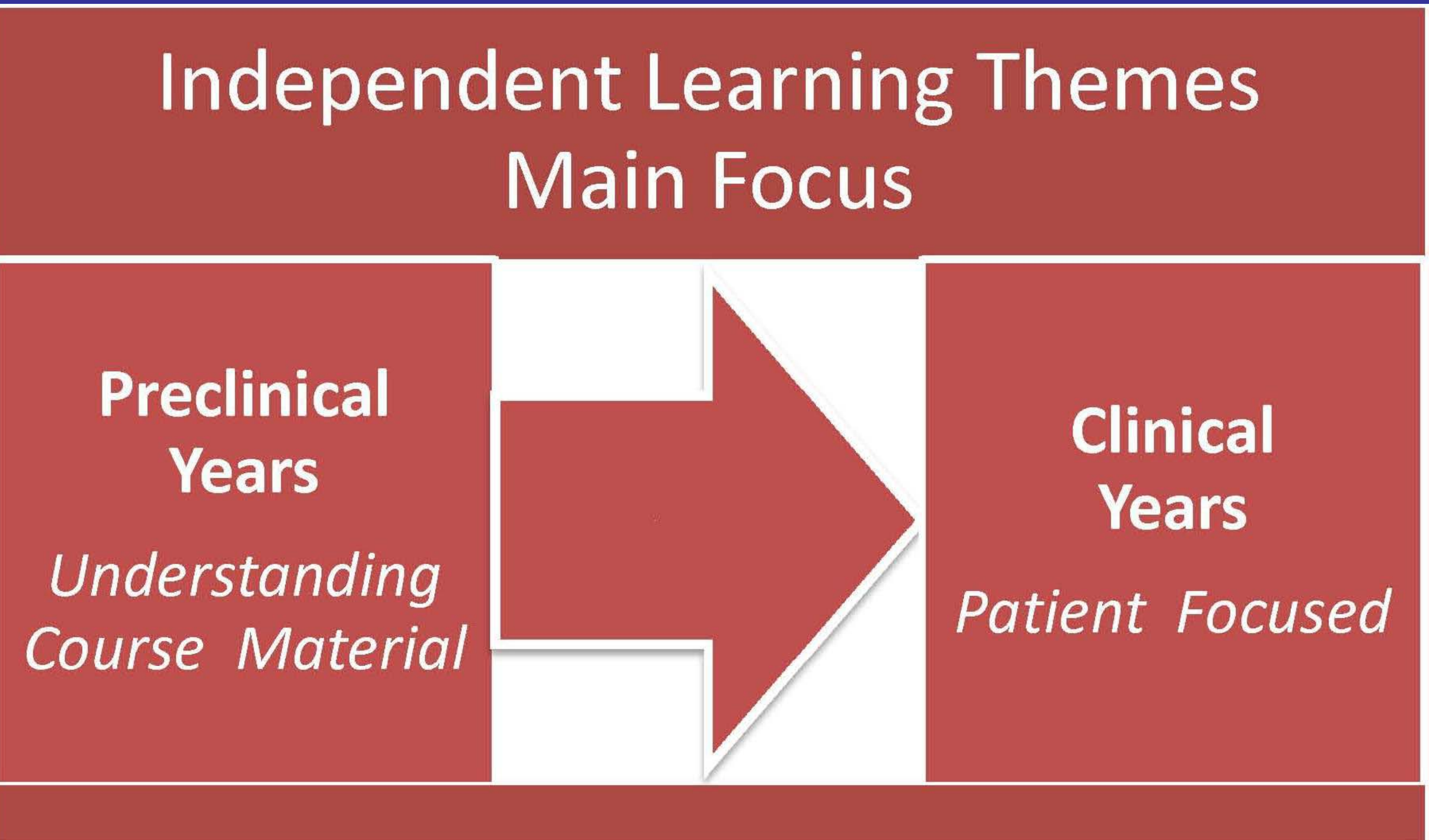


# INDEPENDENT LEARNING: EMERGING THEMES

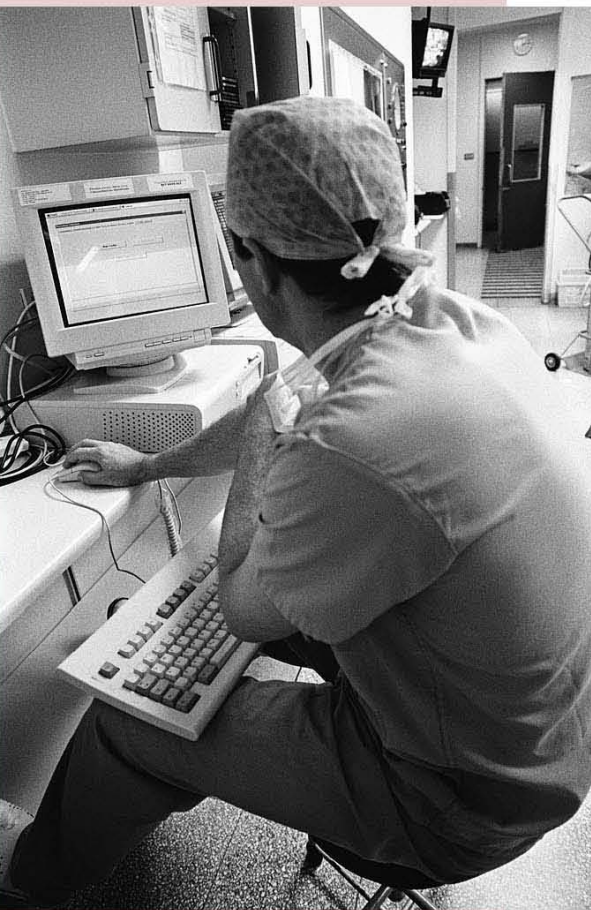
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Preclinical students' definition of <u>Independent Learning</u>	
Major Themes	Student Responses:
Studying on my own	<ul style="list-style-type: none"><li>• Reading the textbook to fill in gaps not addressed in class ...</li><li>• Studying lecture material on my own, reading and integrating</li><li>• Studying on my own things that were not presented at all or presented very briefly</li></ul>
Use of outside resources	<ul style="list-style-type: none"><li>• Using resources other than lecture/syllabi to round out information</li><li>• I define independent learning as using resources outside class recommended material to learn about subjects or look up information ...</li><li>• ...Learning from other sources (e.g. scientific articles, other classes I had before, web-based resources)</li><li>• Spending time with an atlas and a cadaver ...</li></ul>
Student organization of the material	<ul style="list-style-type: none"><li>• Taking the time to look through textbooks and various handouts to integrate the material</li><li>• Consolidating lecture notes into my own notes and subsequently learning those notes</li><li>• Spending time on your own to make connections and solidify information</li><li>• Integrating various resources (course notes, board review books, notes from other students, lectures, etc.)</li><li>• Organizing the material presented in a manner that was more easily assimilated given my learning style</li></ul>
Active learning	<ul style="list-style-type: none"><li>• ...Creating my own study guides, charts, and tables</li><li>• Making flashcards and repeatedly looking at them</li><li>• ...Going into lab by ourselves and figuring things out with the atlas</li><li>• ...Making note cards from lecture handouts</li></ul>



Clinical students' definition of <u>Independent Learning</u>	
Major Themes	Student Responses:
Reading	<ul style="list-style-type: none"><li>• Reading distributed material and reading up on patient's conditions outside of the hospital</li><li>• Independent Learning for this clerkship involves selecting diagnoses that our patients have and reading about them either during the day (when there's down time) and in the evenings</li><li>• Reading about my patients each night</li><li>• Reading about material relevant to patient management decisions</li></ul>
Researching	<ul style="list-style-type: none"><li>• Literature reviews for unclear diagnoses, medical concepts and treatment plans</li><li>• Looking up information on my own, seeing a topic I need to learn more about and finding out how to do that</li><li>• Researching medical problems, their diagnosis and treatment, looking up medications, etc - via internet and other school resources</li><li>• Investigating questions on my own via literature and internet searches</li><li>• ...Also using EBM sources on the library website to see what the data is regarding treatment efficacy, comparison, etc ...</li></ul>
Seeking out experiences or information with health care staff	<ul style="list-style-type: none"><li>• Seeking out experiences with doctors, nurses, and midwives to participate in deliveries or clinic ...</li><li>• Having the initiative to seek out information either it be from literature, the attending physician, residents, fellow med students or the patients</li><li>• ...Asking residents and attendings to go over various topics with me</li><li>• ...Following up with my team for any questions I have to better understand the disease and the management of the disease</li></ul>
Function independently in a hospital or health care setting	<ul style="list-style-type: none"><li>• ...Learning how to figure things out on my own (how the floor works, how to order consults etc)</li><li>• ...Learning how to help the team take care of the patients</li><li>• ...Advocate for yourself to be involved in deliveries ...</li><li>• ...Asking to be included in various scenarios (family meetings, procedures, etc.)</li></ul>



## Introduction

Previous research findings suggest “independent learning” appeared to be the single most useful method for helping students facilitate learning in their preclinical years. This study extends upon our prior work exploring students’ definition of independent learning.

## Method

A new open-ended item was added to all end of course/clerkship evaluations asking students to define independent learning. Data was extracted from two cohorts (years 1 & 2) in the preclinical years (N=200) and from two additional cohorts (years 3 & 4) in the clinical years (N=100). Comments were then stratified by preclinical and clinical years and by course/clerkship. Four professional evaluators then performed independent qualitative analysis of students’ definition of independent learning. Themes were identified, recorded, and compared between the two cohorts and across the courses/clerkships.

## Results

### Preclinical years

After triangulating the data, the following themes emerged for the preclinical years in which the main focus was to gain a better understanding of the material/course. The most prevalent response was “studying on my own,” followed by use of outside resources. Student organization of the material, independent of source, was noted many times as a way to assimilate and solidify information. Active learning in which students created material(s) (e.g., making flashcards, rewriting lectures, creating note cards from readings) was often cited. Data did not vary across the preclinical years or the courses within each year.

### Clinical years

Themes that emerged from the clinical years differed from those of the preclinical years with a greater focus on patient centered learning, where the primary goal was to gain a better comprehension of a particular patient’s case rather than a simple understanding of course content. The two most prevalent responses in the clinical years were “reading” and “researching” typically associated with diseases/diagnoses related to their patients, or topics that students were exposed to during their clerkships. Examples of researching consisted of literature searches, use of internet based resources, faculty discussions, and text/review books. Other common responses included seeking out experiences or information with health care staff (including residents, doctors, midwives, and other members of a student’s team) as well as practicing technical skills. Learning how to function independently in a hospital/health care setting (reading others’ progress notes to see how they compared to the students’, figuring out how to order consults, etc.) was also mentioned. Similar to the preclinical years, data did not vary significantly across clerkships.

## Conclusion

From our analysis we found that students valued independent learning and feel that it is an important tool through which a more complete understanding of material throughout their medical education can be achieved. Though independent learning does not have the same definition for everyone, there does appear to be shared characteristics, along with distinct differences. Themes within the clinical years differ from those of the preclinical years with less of a focus on active learning and more attention on self-directed learning through reading and researching about patients. The latter may reflect mastery of some UMMS competencies such as “Physician as Scientist” and “Physician as Clinical Problem Solver.” Overall the clinical years’ definitions tended to be more diverse and reflect a higher level of maturity when compared to the preclinical years’ responses. Both years were similar in that students did much learning on their own, often using a mixture of styles to enhance their understanding of both courses and patients. Perhaps sharing this information with faculty could give them the tools to provide students with more resources to aid their independent learning.