

A Survey of Medical Educator Perceptions of Active Learning

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Introduction

- Active learning is generally defined as an instructional method that engages students in the learning process through the use of meaningful learning activities. (1)
- Ample evidence in educational literature suggests that active learning can improve student's comprehension and problem-solving. (1)
- Despite this, many educators are reluctant to adopt active learning in the classroom.
- The goal of this study was to explore medical educators' perceptions of active learning and to identify barriers to implementation.**

Methods

- A 25-question survey was developed based on the Miller and Metz "perceptions of active learning" survey. (2)
- 12 demographics questions in which users selected a single response were added to the 13 original active learning survey questions, which included ranking, Likert scale, single response, and open response questions.
- Active learning questions assessed user knowledge and perceptions of active learning as well as barriers to implementation.
- The survey was launched via Qualtrics in August of 2019 and was disseminated to over 2,800 subscribers via the DR-ED listserv.

Results

- 137 responses were collected between August of 2019 and May of 2020 from respondents from 49 states.
- The majority of respondents were primarily PhD, MD, and MS degree holders who were full time employees at MD, DO and medical residency programs.
- 95.3% of respondents were familiar with the term active learning and its use, and 91.5% had observed active learning in the classroom.
 - Of those who observed active learning, 88.7% felt it was used effectively.

Table 1: Demographics of survey respondents.

SURVEY QUESTION	MOST COMMON RESPONSE (%)	SECOND MOST COMMON RESPONSE (%)	THIRD MOST COMMON RESPONSE (%)
WHICH CATEGORY BELOW INCLUDES YOUR AGE?	50-59 (30.0%)	60 or older (27.7%)	40-49 (27.7%)
WHAT IS YOUR GENDER?	Female (64.8%)	Male (34.4%)	Other (0.8%)
IN WHICH STATE IS YOUR PRIMARY APPOINTMENT?	Florida (11.8%)	Texas (10.1%)	Arizona, California, Michigan (7.6% each)
IF GRADUATE DEGREE, PLEASE LIST ALL DEGREES.	PhD (52.6%)	MD (27.1%)	MS (18.3%)
WHICH OF THE FOLLOWING BEST DESCRIBES YOUR EMPLOYMENT STATUS?	Employed, working 40 or more hours per week (90.4%)	Employed, working 1-39 hours per week (6.4%)	Retired (3.2%)
WHAT IS YOUR CURRENT POSITION LEVEL/RANK?	Associate Professor (26.6%)	Assistant Professor (26.6%)	Professor (25.8%)
HOW MANY TOTAL YEARS HAVE YOU BEEN TEACHING, INCLUDING CURRENT AND PREVIOUS INSTITUTIONS?	Over 30 (22.3%)	20 (11.6%)	10 (7.4%)
WHAT IS YOUR PERCENT EFFORT DEDICATED TO TEACHING /INSTRUCTIONAL/EDUCATIONAL RESPONSIBILITIES?	100% (18.4%)	50% (15.7%)	75% (7.8%)
WHICH CATEGORY OF HEALTH SCIENCES PROGRAM ARE YOU EMPLOYED BY?	Allopathic Medical School (62.8%)	Osteopathic Medical School (14.6%)	Medical Residency Program (13.9%)
IN YOUR DEPARTMENT, WHAT ARE YOU INVOLVED IN?	Curriculum Development or Modification (67.9%)	Faculty Development (62.0%)	Developing or Implementing New Teaching Methods (61.3%)

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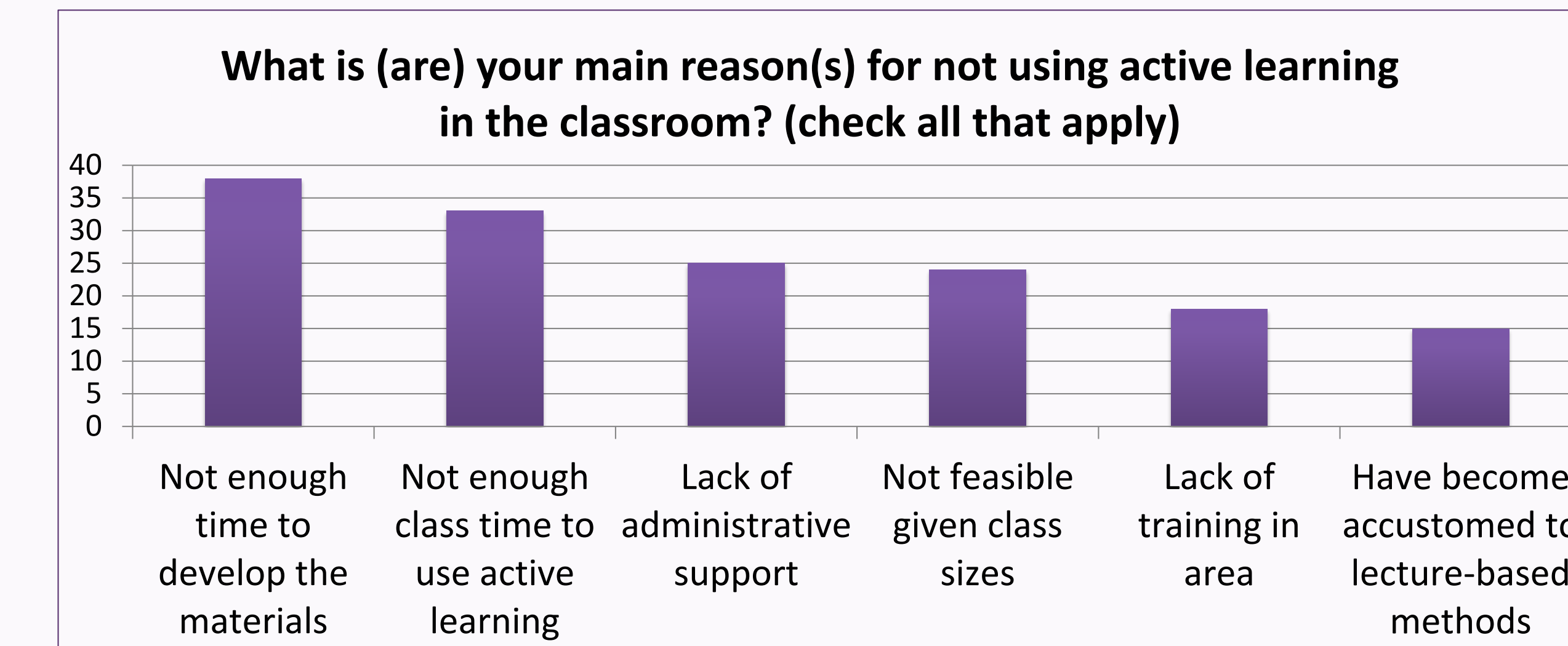
Table 2: Perceptions of active learning.

SURVEY QUESTION	MOST COMMON RESPONSE (%)	SECOND MOST COMMON RESPONSE (%)	THIRD MOST COMMON RESPONSE (%)
WHICH TYPES OF ACTIVE LEARNING ARE YOU CURRENTLY USING AT YOUR PRIMARY ACADEMIC APPOINTMENT INSTITUTION?	Discussion (65.7%)	Audience Response (59.9%)	Team-Based Learning (56.2%)
RANK YOUR USE OF THE FOLLOWING TEACHING METHODS IN THE CLASSROOM ACCORDING TO THE FREQUENCY YOU USE THE METHOD DURING CLASS TIME. (RANKED #1)	Group or Collaborative Learning (41.1%)	Lecture (35.5%)	Problem Solving (8.4%)
RANK THE FOLLOWING LEARNING METHODS ACCORDING TO THE WAY YOU FEEL STUDENTS LEARN COMPLEX CONCEPTS MOST EFFECTIVELY. (RANKED #1)	Problem Solving (48.0%)	Group or Collaborative Learning (38.2%)	Educational Games or Activities (6.9%)
PLEASE SELECT THE RESPONSE THAT BEST DESCRIBES YOUR FEELINGS ABOUT THE FOLLOWING STATEMENTS:			
I AM INTERESTED IN IMPROVING MY TEACHING SKILLS.	Strongly Agree (61.7%)	Agree (29.0%)	Neither Agree nor Disagree (5.6%)
I AM FAMILIAR WITH THE TERM "ACTIVE LEARNING" AND ITS USE IN POSTSECONDARY EDUCATION.	Strongly Agree (78.5%)	Agree (16.8%)	Strongly Disagree (3.7%)
STUDENTS WOULD LEARN BETTER FROM ENGAGING LECTURES THAT INCORPORATED ACTIVE LEARNING THAN STRICTLY DIDACTIC LECTURES.	Strongly Agree (58.0%)	Agree (35.0%)	Neither Agree nor Disagree (4.0%)
ACTIVE LEARNING IS IMPORTANT FOR LONG-TERM RETENTION OF INFORMATION.	Strongly Agree (62.0%)	Agree (32.0%)	Neither Agree nor Disagree (4.0%)
STUDENT PERFORMANCE ON EXAMS WOULD IMPROVE FROM THE USE OF ACTIVE LEARNING IN THE CLASSROOM.	Strongly Agree (36.0%)	Agree (35.0%)	Neither Agree nor Disagree (25.0%)

We found overwhelming knowledge of and support for active learning among medical educators across the United States.

Results (cont'd)

- 55.1% of respondents reported using active learning 20-50% of the time, however, 78.7% expressed the desire to use active learning more than 50% of the time.
 - Respondents reported using 24 different types of active learning.
- Of those respondents who are not using active learning in the classroom, lack of time to develop active learning materials (20%), lack of class time to use active learning (17.4%), and lack of administrative support (13.2%) were the most commonly cited reasons.
- 58% of respondents strongly agree that students learn better from active learning than didactic lecture, and 62% agree that it is important for long term retention.
- When compared to male educators, more female educators agreed or strongly agreed with the statement: "students would learn better from engaging lectures that incorporated active learning than strictly didactic lectures" (p < 0.05).
- The frequency of use of 'educational games and activities' was ranked higher by female educators than male educators (p < 0.01).



Discussion

- We found overwhelming knowledge of and support for active learning among medical educators across the United States.
- Medical educator perceptions support educational theory that active learning improves long term retention.
- The major barriers perceived were related to inadequate time to develop and deliver materials, as well as a lack of institutional support for resource intensive active learning.
- Despite medical educators' positive perceptions of active learning and desires to incorporate more active learning into medical education, a gap still exists between institutional backing and medical educator's support of active learning.

References

- Huggett K, Jeffries, WB. Overview of Active Learning Research and Rationale for Active Learning. In: Fornari A PA, ed. *How-To Guide for Active Learning*. International Association of Medical Science Educators; 2015.
- Miller CJ, Metz MJ. A comparison of professional-level faculty and student perceptions of active learning: its current use, effectiveness, and barriers. *Advances in physiology education*. 2014;38(3):246-252.