

# Effect of a Study Skills Course on Student Self-Assessment of Learning Skills and Strategies

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## Background

- An elective study skills course for first professional year (P1) pharmacy students was introduced to teach or reinforce effective study skills early in the Doctor of Pharmacy (PharmD) curriculum.
- The first semester of the P1 curriculum consists of 17 credits, followed by 18 credits in the second semester.
- Initially offered in the first semester of the P1 year, the course was moved to the second semester of the P1 year to “catch” students who may not have performed as well as expected after the first semester.
- In class discussions and reflections, some of the most common academic concerns among P1 students are:
  - Heavy course load consisting of mostly new material taught at a high level.
  - Study skills that worked in undergraduate courses were not successful or practical in the PharmD curriculum.
  - Students who experienced relatively effortless success in undergraduate or prerequisite courses did not need to develop refined study skills or behaviors.
- The course provides instruction in effective reading, notetaking, time-management, test-taking skills, and other skills and behaviors. Assignments are paired with required courses in the curriculum to provide practical tools for students. Students complete several self-reflections during the course.

## Objective

The purpose of this study was to determine whether a study skills course taken by first professional year pharmacy students improved their self-assessment of study skills and strategies.

## Methods

- This study analyzed student responses to the Learning and Study Strategies Inventory (LASSI), an online assessment with questions in 10 subject areas: anxiety, motivation, concentration, test strategies, study aids, selecting main ideas, attitude, self-testing, information processing, and time management.
- Subject areas relate to students’ *skill, will, and self-regulation*, focusing on attitudes and behaviors that lead to successful learning in higher education and can be altered through educational interventions.<sup>1</sup>
- Scores for each subject are reported as percentiles.
- Students who took an elective study skills course in 2012-2017 completed the self-assessment twice; prior to the start of the course and at the end of the course.
- Students who took the course were included in the study if they completed both the pre-course and post course assessments.
- Wilcoxon signed-rank test was performed to compare subject area percentile score between pre- and post-course assessments.

<sup>1</sup>Weinstein CE, Palmer DR. User’s manual for those administering the Learning and Study Strategies Inventory. 2<sup>nd</sup> ed. H&H Publishing Company. 2002.

## Results

- Over a 5-year period, 312 students enrolled in the study skills course completed both the pre- and post-course LASSI assessment.
- Median percentile scores increased significantly in 8 of 10 areas.

## Results

Comparison of pre- and post-course LASSI subject area percentiles

Subject Area	Pre score	Post score	Paired difference Post-Pre	p value
Anxiety	52.5(25.0, 75.0)	75(45, 90)	14(0, 30)	<0.0001*
Attitude	40(15, 70)	60(20, 80)	0(-25, 29)	0.57
Concentration	35(10, 65)	60(30, 80)	5(-15, 35)	0.018*
Information Processing	55(30, 75)	75(55, 90)	20(-5, 45)	<0.0001*
Motivation	50(25, 80)	70(45, 90)	20(-10, 45)	<0.0001*
Self-Testing	25(10, 50)	60(30, 80)	5(-25, 35)	0.11
Selecting Main Ideas	45(20, 65)	65(40, 83)	5(-10, 35)	<0.0001*
Study Aids	40(15, 60)	60(30, 80)	5(-25, 40)	0.033*
Time Management	35(10, 70)	65(32, 85)	10(-20, 35)	0.0009*
Test Strategies	45(20, 70)	70(45, 85)	10(-5, 35)	<0.0001*

- Data presented as median (IQR)
- p values calculating using Wilcoxon signed-rank test
- \*statistically significantly different
- “Paired difference post-pre” is not equal to “post-pre” since paired difference using difference of post and pre score of same student.

## Conclusions

- This evaluation shows that a study skills course improves students’ self-assessment of skills and attitudes associated with success in post-secondary education.
- Scores on the LASSI assessment may guide improvement of current course activities and development of new activities.
- Future studies will look at the effect of such a course on academic outcomes.