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Interactive Online Tools To Engage Students Within and Outside Classroom

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PRE-QUIZ

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ROOM: 474674

Session Objectives

By the end of the session-A, participants will:

- Understand the QU College of Pharmacy experience in implementation of instructional online tools in classrooms.
- How in class Socrative questioning using the Socrative Response System engages student learning.
- Identify the guidelines for integrating Socrative questioning into the classroom setting.
- Perceptions of students toward implementation of online tools in classrooms.

During the session-B, participants will receive orientation to the following:

- Setting up an account in online instructional tools such as Padlet, Yammer and Quizlet.
- Creating a class and adding or inviting members to the class on your account
- Adding questions, assignments and/or study sets to your account.
- Recording, reviewing and retrieving the individual student performances and grades on the assessments and assignments.

College of Pharmacy, Qatar University

- First and only CCAP accredited College of Pharmacy outside of Canada

2013-2016 Key Performance Area (KPA)

KPA 1: Prepare competent graduates by providing high quality education

KPA 2: Conduct quality research that addresses contemporary challenges and advances knowledge

KPA 3: Integrate the university with the community to support social, cultural and economic development.

KPA 4: Provide effective and efficient support environment and facilities to the University community

BSc (Pharm) – AFPC* Educational Outcomes

① **Care Provider:** Pharmacy graduates use their knowledge, skills and professional judgment to provide pharmaceutical care and to facilitate management of patient's medication and overall health needs.

② **Communicator:** Pharmacy graduates communicate with diverse audiences, using a variety of strategies that take into account the situation, intended outcomes of the communication and the target audience.

③ **Collaborator:** Pharmacy graduates work collaboratively with teams to provide effective, quality health care and to fulfill their professional obligations to the community and society at large.

④ **Manager:** Pharmacy graduates use management skills in their daily practice to optimize the care of patients, to ensure the safe and effective distribution of medications, and to make efficient use of health resources.

⑤ **Advocate:** Pharmacy graduates use their expertise and influence to advance the health and well-being of individual patients, communities, and populations, and to support pharmacist's professional roles.

⑥ **Scholar:** *Pharmacy graduates have and can apply the core knowledge and skills required to be a medication therapy expert, and are able to master, generate, interpret and disseminate pharmaceutical and pharmacy practice knowledge.*

⑦ **Professional:** Pharmacy graduates honor their roles as self-regulated professionals through both individual patient care and fulfillment of their professional obligations to the profession, the community and society at large.

*Association of Faculties of Pharmacy of Canada (AFPC), 2010

"Tell me and I forget, teach me and I may remember, involve me and I learn" - Benjamin Franklin

The aging infrastructure and the lecture tradition of colleges and universities may not meet the expectations of students raised on the Internet and interactive games.

Stewart DW et al. Active Learning Process Used in the US Pharmacy Education. AJPE. 2011; 75(4) Article 68.

Active Learning Stimulates Higher-Order Thinking and Improves Student Motivation to Learn

- **By engaging students in the learning process, they are better able to apply the knowledge they gain.**
- **Short-term and long-term retention of lecture material was better in the student group in which the active-learning approach was used.**
- **Overall, 97% of the students agreed or strongly agreed that the use of mobile devices by pharmacists has the potential to improve patient health care.**

1.Richard CAH et al. Pharmacy student perceptions on the introduction of clinical case studies solved with Apple mobile devices into a basic health science laboratory. Currents in Pharmacy Teaching and Learning. DOI: http://dx.doi.org/10.1016/j.cptl.2014.05.006, June 16, 2014

Active Learning Strategies and Pharmacy

Table 1. Active-Learning Strategies Included in a Survey of US Colleges and Schools of Pharmacy Regarding Curriculum Content

Strategy	Brief Description
Audience response system / clickers **Socrative, Padlet**	Use of remote control devices by students to anonymously respond to multiple-choice questions posed by the instructor[39]; can be integrated into traditional lectures, often termed "active lecture"[40]
Discussion-based learning, including deliberative discussion	Use of communication among learners (both synchronous and asynchronous) as a teaching modality; can be used with other strategies such as case studies[41, 42]
Interactive-spaced education	Use of repetition of content at spaced intervals combined with testing of that content; developed and used heavily within the context of medical education[43, 44]
Interactive Web-based learning **Yammer, Quizlet**	Use of web-based modules to deliver content and assess student understanding in an interactive format[45]
	Use of human patient simulators in a laboratory environment to teach providers to respond to a variety of physiological emergencies and situations[35]
POGIL/ discovery learning	Use of exercises specifically designed to lead teams of students through the stages of exploring data, developing concepts based on that data, and applying the concepts[37]
PBL, including case-based learning)	Use of cases or problem sets meant to be explored in self-managed teams of students (with a facilitator); PBL sessions precede any discussion of content by instructor[37]
Team-based learning	Use of small student groups to facilitate discussion, case study exploration, or other aspects of content; preparation required in advance and content integrated throughout the class by the facilitator (expert)[46]
Traditional laboratory experiences	Use of traditional laboratory and benchtop experiences to provide hands-on learning experiences

Abbreviations: POGIL = process-oriented guided inquiry learning; PBL = problem-based learning.

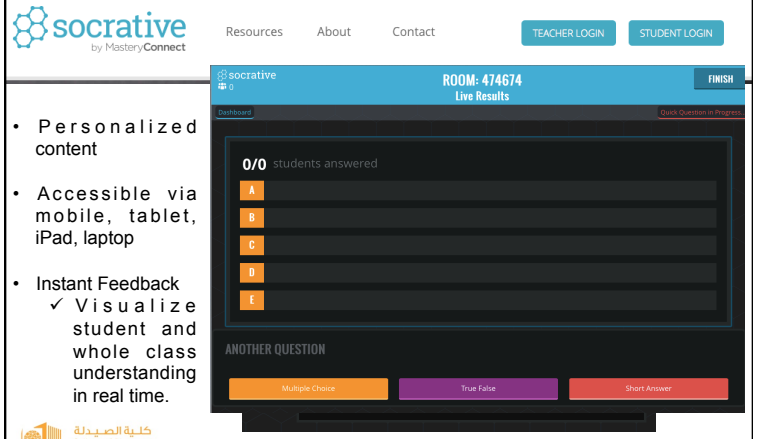
Stewart DW et al. Active Learning Process Used in the US Pharmacy Education. AJPE. 2011; 75(4) Article 68.

QU-CPH Experience: In Class Socratic Questioning using "Socrative Response System"

- **Rather than providing students with answers, an instructor queries students in a manner that helps them uncover the answer themselves.**
  - **Involves asking students about their thought process, probing their assumptions, and inquiring about their evidence.**
- **Examples of Socratic-type questions include:**
  - *What do you think causes this phenomenon to happen and why?*
  - *What are the consequences of that assumption?*
  - *How does this concept tie in with what you've learned previously?*
  - *What are the strengths and weaknesses of your evidence?*
- **Effective means of helping students work through the process of finding the solution.**

Gleason BL et al. An Active-Learning Strategies Primer for Achieving Ability-Based Educational Outcomes. Am J Pharm Educ. Nov 10, 2011; 75(9): 186.

Socrative Online Response System



- Personalized content
- Accessible via mobile, tablet, iPad, laptop
- Instant Feedback
  - ✓ Visualize student and whole class understanding in real time.

http://www.socrative.com

Logistical Arrangements for Incorporation of Socrative Questioning In Class

Post lecture material a minimum of 24 hours prior to lecture

↓

Preparation of quizzes
1. Pre-Quiz – Questions should address knowledge required to understand the lecture

2. Post-Quiz – Questions should address content covered in lecture (and should align with lecture objectives)

↓

Feedback session following the exam

Tuberculosis

- Leading infectious killer globally
- *Mycobacterium tuberculosis*
- Classified as pulmonary, extrapulmonary, or both
  - Lungs are the major site for infection
- **Transmission** usually takes place through the airborne spread of droplet nuclei produced by patients with infectious pulmonary TB.
- Stages: Latent infection or a progressive, active disease
- Left untreated or improperly treated causes progressive tissue destruction and, eventually, death
  - If untreated, the disease may be fatal within 5 years in 50–65% of cases.
  - TB caused by drug-susceptible strains is curable in virtually all cases
- Patients with underlying **immune suppression** (e.g., renal failure, cancer, and immunosuppressive drug treatment) 4 to 16 times greater risk than other patients
  - HIV-infected patients have an *annual* risk of active TB of approximately 10%

Tuberculosis: Pre and Post Quiz

Pre-Quiz:
- Features of mycobacterium (taught in Microbiology 250)
- Differentiate between gram positive and gram negative bacteria
- Immune response

Post-Quiz:
- Postulated mechanism of action
- Clinical Manifestations
- Proposed pharmacological interventions

Strengths & Barriers

STRENGTHS
- Ensures that students are prepared for the upcoming session and allows instructor to identify any knowledge gaps (PRE-QUIZ).
- Engages student and encourages students to focus in class.
- Allows students to analyze the material delivered.

BARRIERS
- Finding a suitable time for the delivery of the assessment and for providing feedback.
- Grading of the assessments (if activity is graded).
- Degree of difficulty of questions.

Achievement of Student Learning

- Faculty were most impressed by seeing students integrate the material learned in separate courses in one setting.
- Students were more confident in approaching other courses which required course integration (i.e., ICBL, professional skills, SPEP rotations).
- Student evaluation ratings and faculty comments were both favorable.

Student Perceptions: Spring 2014 Student Course Evaluations

Overall, the instructor encouraged class participation.

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree
Unanswered

>70% Agree or Strongly Agree that the Instructor Encouraged Class Participation

The idea of having socrative after lectures really helped us understand the lecture well, and be prepared for it. In addition, it was not burden compared to assignments assigned instead

She made a very great change in the class by giving us a soctarive question

that was very good because make us to focus more in class and read before the class

and that lead to better performance and grade

Role of Academic Advisors

- Instilling **positive emotions** and **attitudes** of professionalism toward learning course content.
  - Plays a substantial role as student pharmacists construct the knowledge and skills they will need in pharmacy practice.

Gleason BL et al. An Active-Learning Strategies Primer for Achieving Ability-Based Educational Outcomes. Am J Pharm Educ. Nov 10, 2011; 75(9): 186.

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POST-QUIZ

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References

- Association of Faculties of Pharmacy of Canada (AFPC), 2010.
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- Stewart DW et al. Active Learning Process Used in the US Pharmacy Education. AJPE. 2011; 75(4) Article 68

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Thank You!

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Session-B: Objectives

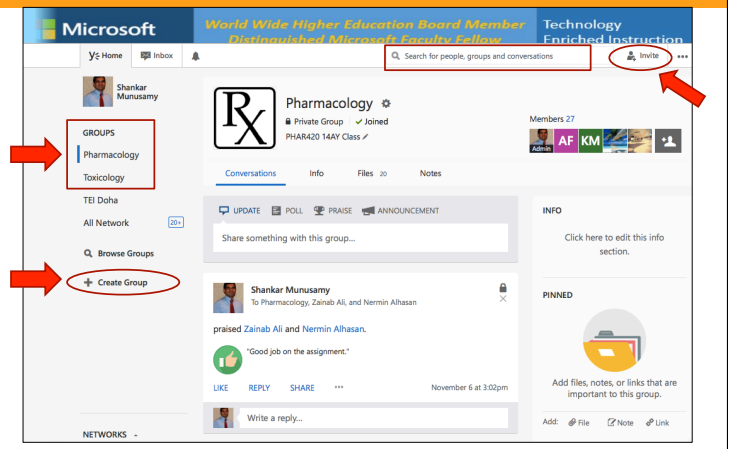
To orient participants to the following:

- Setting up an account in online instructional tools such as
  - Yammer
  - Quizlet
  - Padlet
- Creating a class and adding or inviting members to the class on your account
- Adding questions, assignments and/or study sets to your account
- Recording, reviewing and retrieving the individual student performances and grades on the assessments and assignments

Yammer: *"The Facebook for Academia"*

- Resembles a lot like "Facebook"
- What you can do –
  - **Post** Messages and Files
  - Conduct **Polls**
  - Make **Announcements**
  - **Praise** someone
  - **Like** statuses
  - **Chat** with students
  - Send **individual messages**

Yammer: *"The Facebook for Academia"*



https://www.yammer.com/microsofttei/

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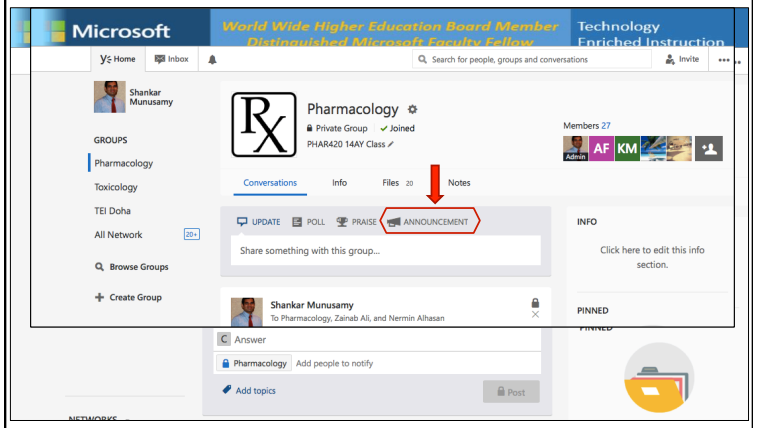

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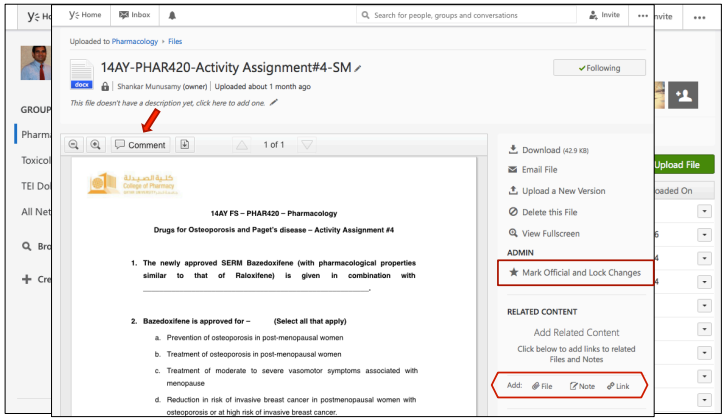


Impact on Student Learning & Course

A tool to improve active learning

Does this course include any active learning where students are given the opportunity to not only listen, but to read, write, and reflect as they approach course content?

	Percent Answered
Strongly Agree	20%
Agree	60%

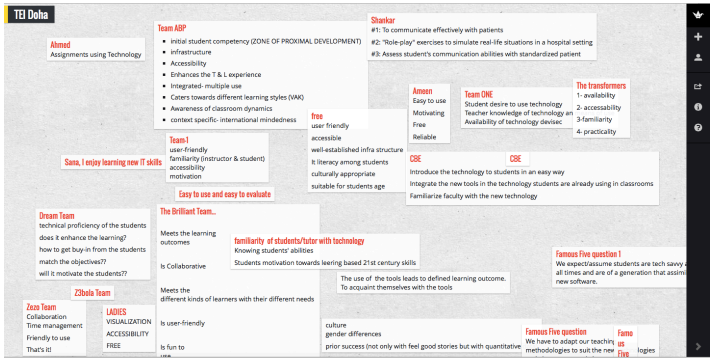
80%

Student Feedback (obtained from 14AY Course Evaluation)

I loved the Yammer experience. It is great to learn by searching and know that u have a reference that will confirm ur search results

Padlet: *Break the wall between you and your students*

- *An interactive portal to quickly exchange ideas and receive immediate feedback from a large number of users.*

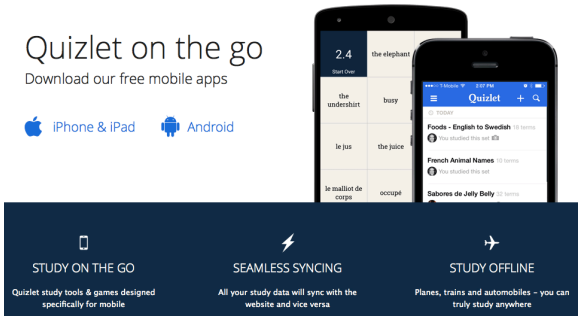


http://padlet.com

Padlet: Create, share, save and mobilize

Quizlet: *Quizzes at your own pace*

- *A portal designed to create flash cards for learning and revising the lecture content.*
- *Offers an excellent mobile platform to take quizzes in the form of games.*



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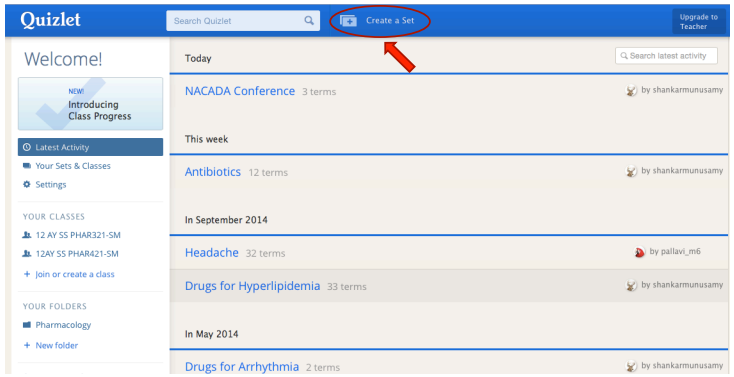
Quizlet



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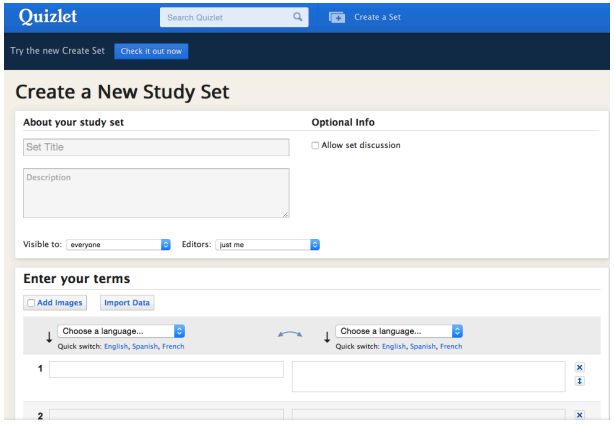

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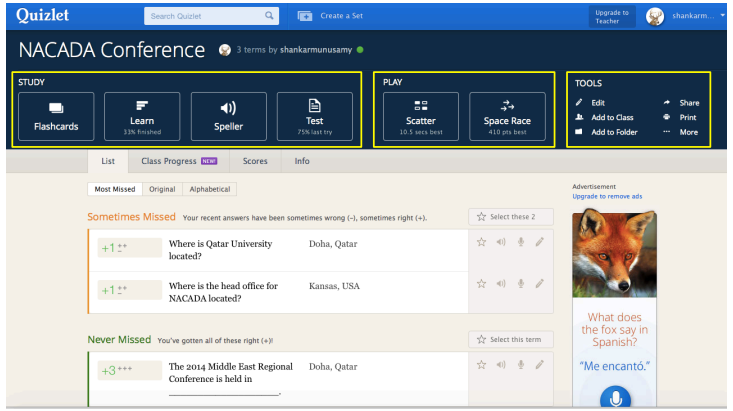

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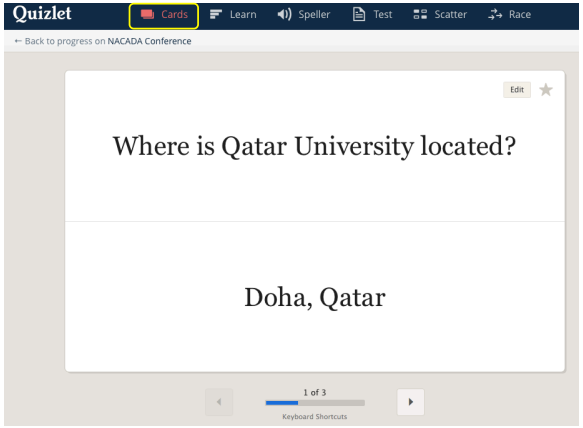

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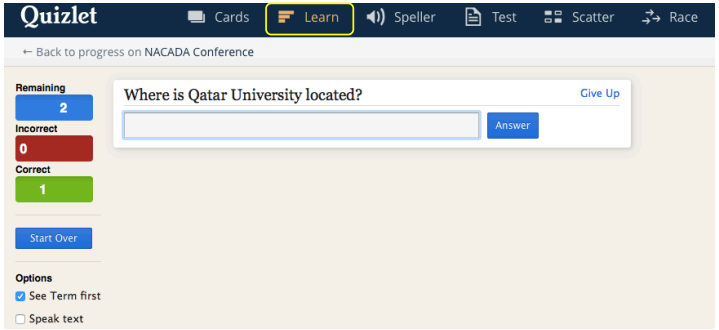

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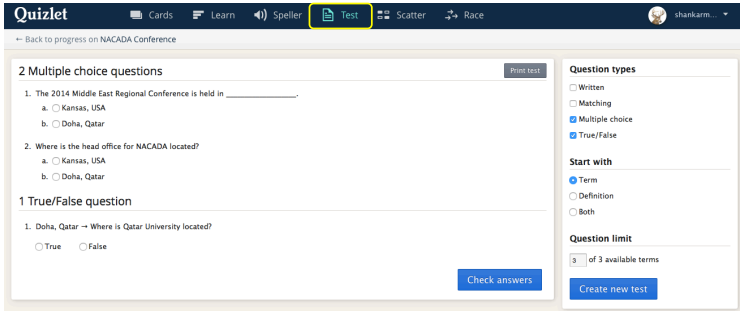

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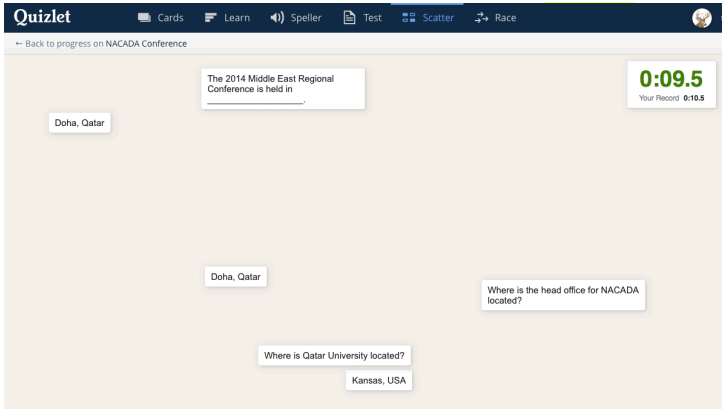

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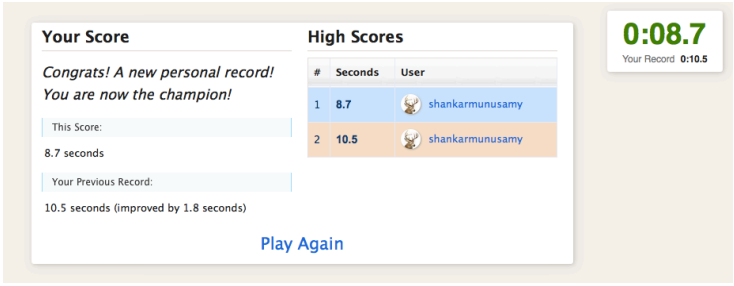

How can I use these tools for academic advising?

- **Embrace technology to improve student learning and engage with students**
  - ✧*Make announcements and share files (Yammer)*
  - ✧*Conduct polls (Yammer)*
  - ✧*Receive feedback real-time from students (Padlet and Socrative)*
  - ✧*Share information as flash cards and games (Quizlet)*
  - ✧*Educate students at risk to use online tools to enhance retention of the lecture material*

Acknowledgements

- **13AY P-2 BSc Pharmacy Students**
- **13AY P-3 BSc Pharmacy Students**
- **14AY P-2 BSc Pharmacy Students**
- **14AY P-3 BSc Pharmacy Students**

Thank you!