We will be using a back channel communication tool with today's webinar. This will enable the audience to post questions during the webinar which will be answered at the end prior to opening up the phone line for live questions.

To participate:

Go to:
https://todaysmeet.com/IAMSEWebinarMarch31
In the "Nickname" field type your name, then press enter.

In the "Say" field type your question and press enter.

Applying quality improvement principles to advance faculty development

Using clinical CQI tools in program evaluation

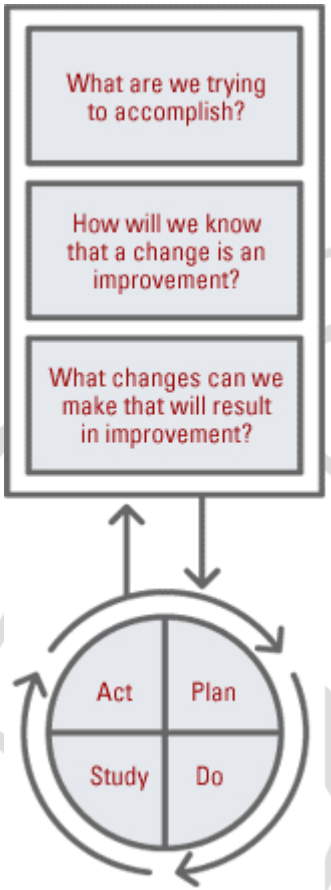
Background

LCME ED-5A

A medical education program must include instructional opportunities for active learning and independent study to foster the skills necessary for lifelong learning.

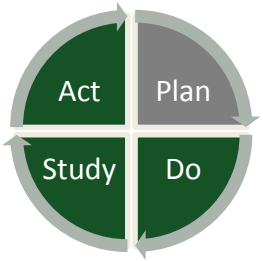
LCME Standard Element 1.1

A medical school engages in ongoing planning and continuous quality improvement processes that establish short and long-term programmatic goals, result in the achievement of measurable outcomes that are used to improve programmatic quality, and ensure effective monitoring of the medical education program's compliance with accreditation standards.



http://www.institute.nhs.uk/quality_and_service_improvement_tools/quality_and_service_improvement_tools/plan_do_study_act.html

PDSA Cycle #1



Aim: Create and deliver a MD curriculum that utilizes active and self-directed learning methods and limits passive lectures to less than 40%

First test of change	Plan-tasks to set up test of change
Introduce faculty to active learning techniques	Determine LCME expectations
	Identify faculty champions
	Promote and utilize faculty champions to introduce active learning strategies
	Provide regular training opportunities

Prediction: General support of concepts

Measures to determine if prediction succeeds: Number of champions, number of participants in sessions, faculty perception of training

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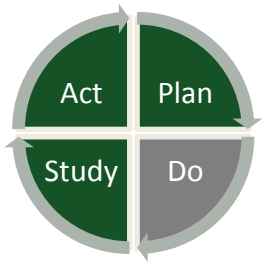
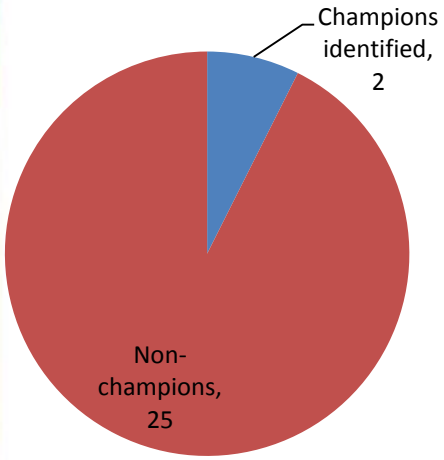
PDSA Cycle #1



What happened when we ran the test?



- 3 workshops hosted by champions
- 76% participation rate, with most faculty attending at least 2 sessions each
- General observations from group discussions: Faculty support the idea of utilizing active learning strategies in the classroom!

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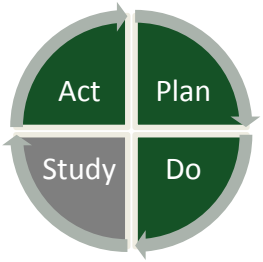
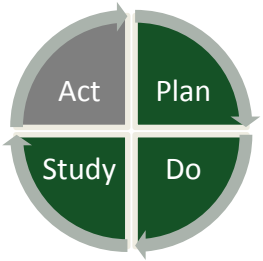
PDSA Cycle #1



How do the results compare to the predictions?

- Process outcomes – predictions held true
- Program evaluation measures – gap in what expected to achieve and what was achieved
- General observations from group discussions: Faculty support the idea of utilizing active learning strategies in the classroom!

PDSA Cycle #1



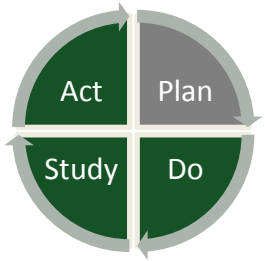
What modifications should be made for the next cycle?

- With a gap identified in the application of active learning strategies, our office had to shift to direct (in many cases one-on-one) support for faculty in applying the concepts
- Re-consider the use of guest lecturers

PDSA #2

Revolved around classroom observation and feedback, more opportunities to share best practices, and expert consultations, shift guest lecturers to cases

PDSA Cycle #3



Aim: Create and deliver a MD curriculum that utilizes active and self-directed learning methods and limits passive lectures to less than 40%

Third test of change	Plan-tasks to set up test of change
Design shared framework that supports the vision (for active learning) in our curriculum	Provide background literature on topic
	Gather faculty perception as to the appropriate amount of active learning based on year
	Determine actual amount of active learning

Prediction: Different perceptions about the continuum of active learning

Measures to determine if prediction succeeds: Percentage of lectures versus other modalities per module, per year, and overall in the preclinical curriculum, difference between ideal versus actual number of active learning experiences.

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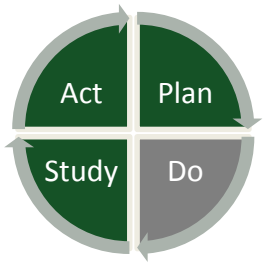
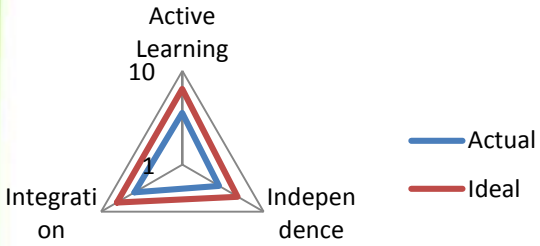
PDSA Cycle #3

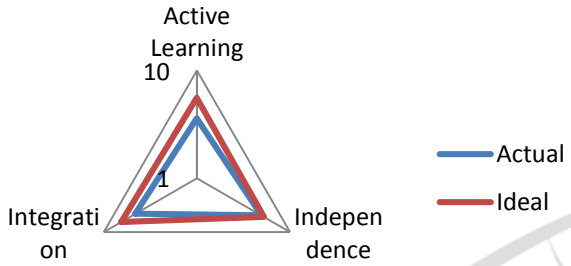


What happened when we ran the test?

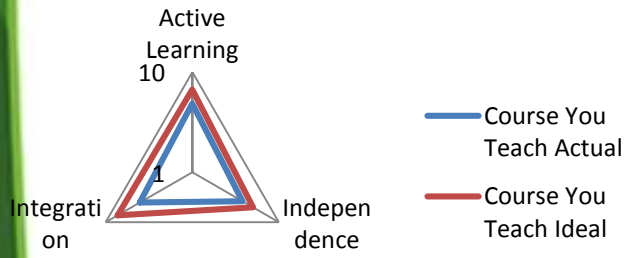
M1: Actual v. Ideal Teaching Practices



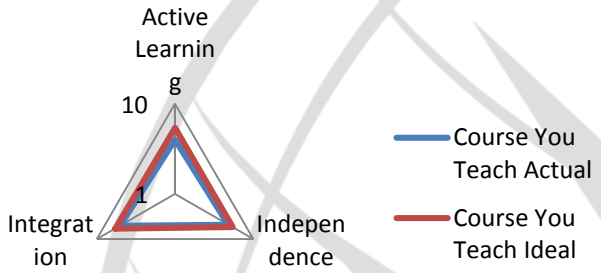
M2: Actual v. Ideal Teaching Practices



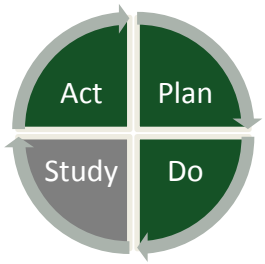
M1: Course You Teach Actual v. Ideal Teaching Practices



M2: Your Course Actual v. Ideal Teaching Practices



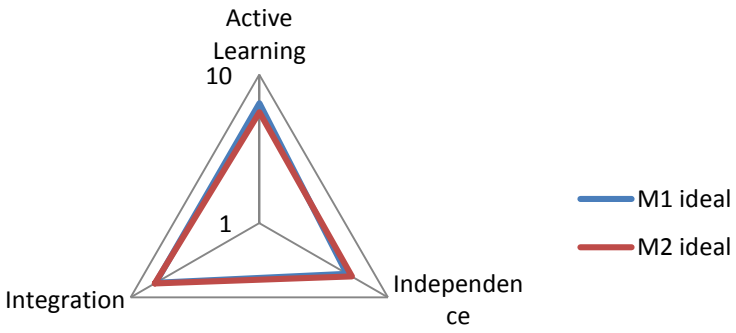
PDSA Cycle #3



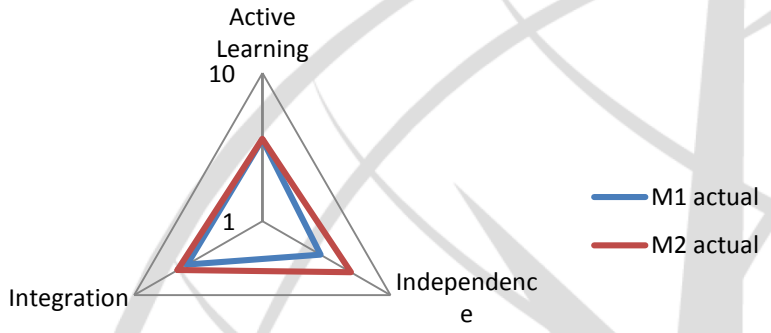
How do the results compare to the predictions?

- There are major differences in perception and practice between first and second year instructors

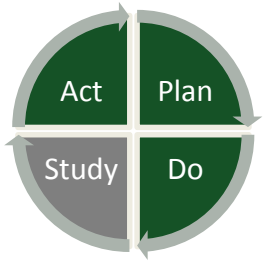
Ideal Progression of Curriculum



Actual Curriculum Progression



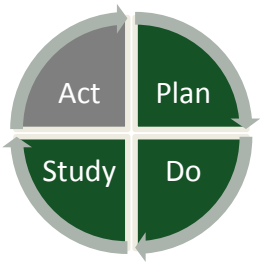
PDSA Cycle #3



How do the results compare to the predictions?

- Unexpected major programmatic changes – 2 modules

PDSA Cycle #3



What modifications should be made for the next cycle?

Consider other factors:

Student evaluations of faculty

Peer observations/evaluations

Other opportunities to come….

Current State?

A Comparison of Student and Faculty Perceptions of Implementing Active Learning Modalities in an Integrated Curriculum

Alexander Tsang, B.S., David M. Harris, Ph.D.

Department of Medical Education, University of Central Florida College of Medicine, Orlando, Florida

UNIVERSITY OF CENTRAL FLORIDA College of Medicine

INTRODUCTION

Active learning has been shown to promote deeper understanding and better long term knowledge retension. Evidence suggests that active learning is the best way to improve both problem solving and critical thinking skills, which are necessary in the medical profession. Active learning is any form of instruction that engages students directly in the learning process through specifically tailored educational activities. In this approach, students learn independently through various learner centered exercises to better comprehend and reinforce concepts and facilitate understanding versus passive learning which is teacher centered. The purpose of this study was to compare the perception of active learning modality implementation between medical students and faculty members, in order better to understand some of the factors involved in implementing active learning modalities. Students and faculty participated in a survey that qualify and quantify perceptions about specified teaching modalities.

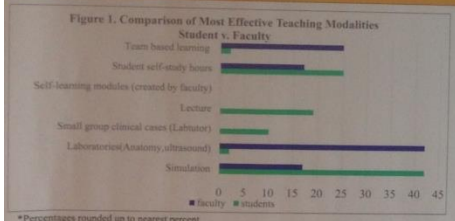
METHODS

An anonymous 13 question survey was distributed to all second year students (n=127) and faculty members (n=48) at the UCF COM in Orlando, FL via Qualtrics. The survey consisted of basic demographic questions, and questions regarding their current, usage, and their perception of active learning Likert-scale, ranking, and open ended questions. Specifically, the questions aimed to determine the teaching modalities and barriers to active learning that students and faculty found to be of greatest impact, respectively.

Statistical Analysis was performed using SPSS 23.0. Categorical and ordinal variables are reported as frequencies and percentages. To assess the perceptions and obstacles of lecture vs active learning, data was presented descriptively.

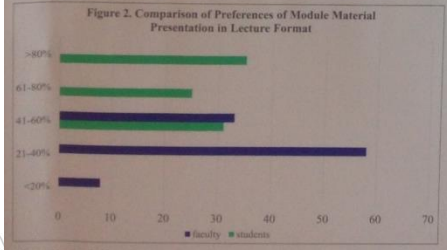
RESULTS

Figure 1. Comparison of Most Effective Teaching Modalities Student v. Faculty



*Percentages rounded up to nearest percent

Figure 2. Comparison of Preferences of Module Material Presentation in Lecture Format



*Percentages rounded up to nearest percent

RESULTS

Figure 3. Results of Student and Faculty Feelings About the Greatest Reason for Providing Lecture as Opposed to Active Learning Methods

Question Choice	Students	Faculty
Too much material in time period/topic is too complex.	26(54)	7(58)
The need to supply basic information that can be later developed.	16(33)	4(33)
Students will remember it better if they can place a faculty face on it.	1(2)	
Faculty members have experience they can relay to the students.	5(10)	1(8)
Lectures should never be used.		

Data presented in frequency and (%).

Table 1. Results of the Student and Faculty Feelings About Active Learning

Survey Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean Score
I prefer active learning activities over lecture.						
Students	3 (6)	11(23)	16 (33)	11(23)	7(15)	3.17
Faculty		4(33)	2(17)	6(50)		3.17
I prefer faculty members who tell me "what I need to know" for exams over faculty who consistently ask me thought provoking questions.						
Students		8(17)	10 (21)	19(40)	11(23)	3.69
Faculty		2(17)	1(8)	6(50)	3(25)	3.83
My performance on exams would improve from the use of active learning in the classroom.						
Students	2 (4)	6 (13)	17 (35)	17 (35)	6 (13)	3.4
Faculty			3(25)	5(42)	4(33)	4.08
An excellent teacher is one who provides notes detailed enough so I do not have to pursue other resources.						
Students	3(6)		4 (8)	20(42)	21(44)	4.17
Faculty	4(33)	8(67)				1.67
I feel as though I can learn more individually than in a group of my peers.						
Students	1(2)	4 (8)	17 (35)	14 (29)	12(25)	3.67
Faculty		3(25)	5(42)	4(33)		3.08
I do the appropriate pre-readings and work prior to a scheduled active learning event.						
Students	6 (13)	11 (23)	8 (17)	15 (31)	8 (17)	3.17
Faculty	1(8)	7(58)	4(33)			2.25
I feel as though I learn more by reviewing lecture videos and Powerpoints than collaborative active learning sessions.						
Students		8(17)	10 (21)	22 (46)	8(17)	3.62
Faculty		1(8)	2(17)	7(58)	2(17)	3.83

Data presented in frequency and (%).

RESULTS

Table 2. Results of Student and Faculty Feelings About the Greatest Barriers to Implementing Active Learning

Question Choice	Students	Faculty
There is not enough time in the curriculum.	24(50)	3(25)
There is not enough time to create active learning sessions.	2(4.2)	4(33)
There are too many students for active learning work.	1(2.1)	
There are too few faculty for active learning to work.	1(2.1)	2(16.7)
There may be a decrease in my individual/module evaluation score.	1(2.1)	1(8.3)
There is a lack of training in the area of active learning.	2(4.2)	2(16.7)
Less material will be covered than during a lecture.	16(33.3)	1(8.3)
There is a fear that I am not in control of the class.		1(2.1)

Data presented in frequency and (%).

LIMITATIONS

Our project had a low response rate from both student and faculty populations. Our sample is not representative Of the student population, as we only had 48 responses, whereas the entire student population of UCF COM is 480.

SUMMARY AND CONCLUSIONS

Data suggests that both students and faculty prefer active learning, but students perceive less value in team training or group work compared to faculty. This does not align with much of the literature regarding the Millennial generation which enjoys teamwork.[1] There is also a general lack of teamwork training in most undergraduate medical schools so this could play a role in student perception and there may be a need to emphasize this greater by faculty.[2] Students feel sense of false confidence reviewing information, but past studies determined that recall, testing, and other active learning methodologies are superior in effectiveness for student performance.[3] The data suggests that sessions on the process of learning may be necessary for both faculty and students to create more efficient methods of learning. In regards to what the groups felt was the greatest reason for utilizing lecture over active learning, faculty were in agreement that there was too much material in the curriculum time period, the lecture topic is too complex, and there was a need to supply information that can be later developed. Students identified that that greatest barrier to the implementation of active learning is that they believe that less material will be covered in active learning versus lecture and that there is not enough time in the curriculum. Faculty also feel overwhelmed by time constraints, perhaps due to the relatively low number of faculty.

Overall, our analysis has revealed areas of interest that need to be researched further in future studies. The most important area that needs to be evaluated is whether or not active learning and perception correlates to academic performance, and the studying differences in curriculum and cultural modalities of schools versus standardized exam board scores.

ACKNOWLEDGEMENTS

We would like to thank:

- The University of Central Florida College of Medicine for funding the study
- Bee Nash for her assistance with completing statistical analysis on the project

REFERENCES

1. Howe, N, Strauss, W. Millennials go to college. *AACRAO & Life Course Associates*. 2003.
2. Lerner S, Magrane D, Friedman E. Teaching Teamwork in Medical Education. *Mount Sinai Journal of Medicine. A Journal of Translational and Personalized Medicine*. 2009;76(4):318-329.
3. Miller CJ, Metz MJ. A comparison of professional-level faculty and student perceptions of active learning: its current use, effectiveness, and barriers. *Adv in Physiol Educ*. 2014;38(3):246-252.

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OurDesign

Curriculum Builder for Teams,
Curriculum Mapper Tools

and the QI Process

Performance Support Tools

- Provide support to faculty after development workshops
- Give prompts and guidance to faculty while they are creating their course goals, objectives, sessions and assessments
- All this information feeds into our curriculum mapper and eventually to the curriculum inventory report

Objectives Before

- Identify the major identifying features of cervical, thoracic, lumbar, sacral and coccygeal vertebrae.
- Identify the anatomy of typical, and atypical, intervertebral joints.
- Identify the ligamentous structures supporting the vertebral column.
- Identify normal and abnormal curvatures of the vertebral column.
- Identify the thoracolumbar fascia in terms of location and attachments.
- Identify the erector spinae and transversospinalis muscle groups in terms of attachments, unilateral and bilateral actions, and innervation.

1. Most objectives at the incorrect level of performance (identify) for some assessment (team presentations)
2. Missing conditions
3. Missing criteria

Objectives After Worskshop Alone

- **Back Region**
- In the back region, given a patient, cadaver or medical images, students will:
- Identify vertebrae and components and regional characteristics

- Apply knowledge of systemic anatomy as applied to high yield clinical conditions such as nerve root compression, scoliosis, low back pain, and neural tube defects, herniated discs

1. Improved levels (verbs) for presentations
2. Missing condition
3. Missing criteria

Objectives After Performance Support

- **Module goal:** Given a clinical scenario students will predict the impact of clinically relevant changes in homeostasis on the structure and function of the nucleus.
- **Session Objectives:**Given a clinical scenario, students will explain the significance of telomere length in aging and cancer in an active learning module assessed by individual and group assessments. RIME-Manager
- Given a clinical scenario students will predict the effect of antibiotics targeting DNA replication of prokaryotes in an active learning module assessed by individual and group assessments. RIME-Manager
- Given a clinical scenario, students will predict the clinical, biochemical, and pathological consequences of disorders of nucleotide metabolism including folate deficiency in an active learning module assessed by individual and group assessments. RIME-Reporter

Start
View Curriculum

OurDesign for Teams

This tool is designed to help you create performance objectives at an expert level. Then, after you have created them, to design your course and assessments.

Think of this task of articulating objectives as identifying elements of our optimal vision for our graduates. The ideal graduate should know, be able to do, and value things we articulate in this process.

Create a module

Work on a Module

Module

- Human Structure (M1)
- Foundational Sciences I (M1)
- Foundational Sciences II (M1)
- General Mechanisms of Disease (M1)
- Skin, Muscle, and Bone (M1)
- GI and Metabolism (M1)
- Synthesis I (M1)
- Heart, Lung, and Kidney (M2)
- Hormones and Reproductive Health (M2)
- Brain, Mind, and Behavior (M2)
- Multisystem Disorders (M2)
- Synthesis II (M2)
- [LONGITUDINAL] Service Learning
- [THREAD] Clinical Skills
- [THEME] Student and Physician Wellness
- [THREAD] Cost-Conscious Care
- [THREAD] Interprofessional Education
- [THREAD] Nutrition
- [THREAD] Professionalism
- [THREAD] Ultrasound
- [THREAD] Biostatistics and Epidemiology
- [THREAD] Caring for the Elderly and Patients with Multiple Chronic Conditions
- [THREAD] Ethics

OurDesign Curriculum Builder

Hi catalajb! Admin

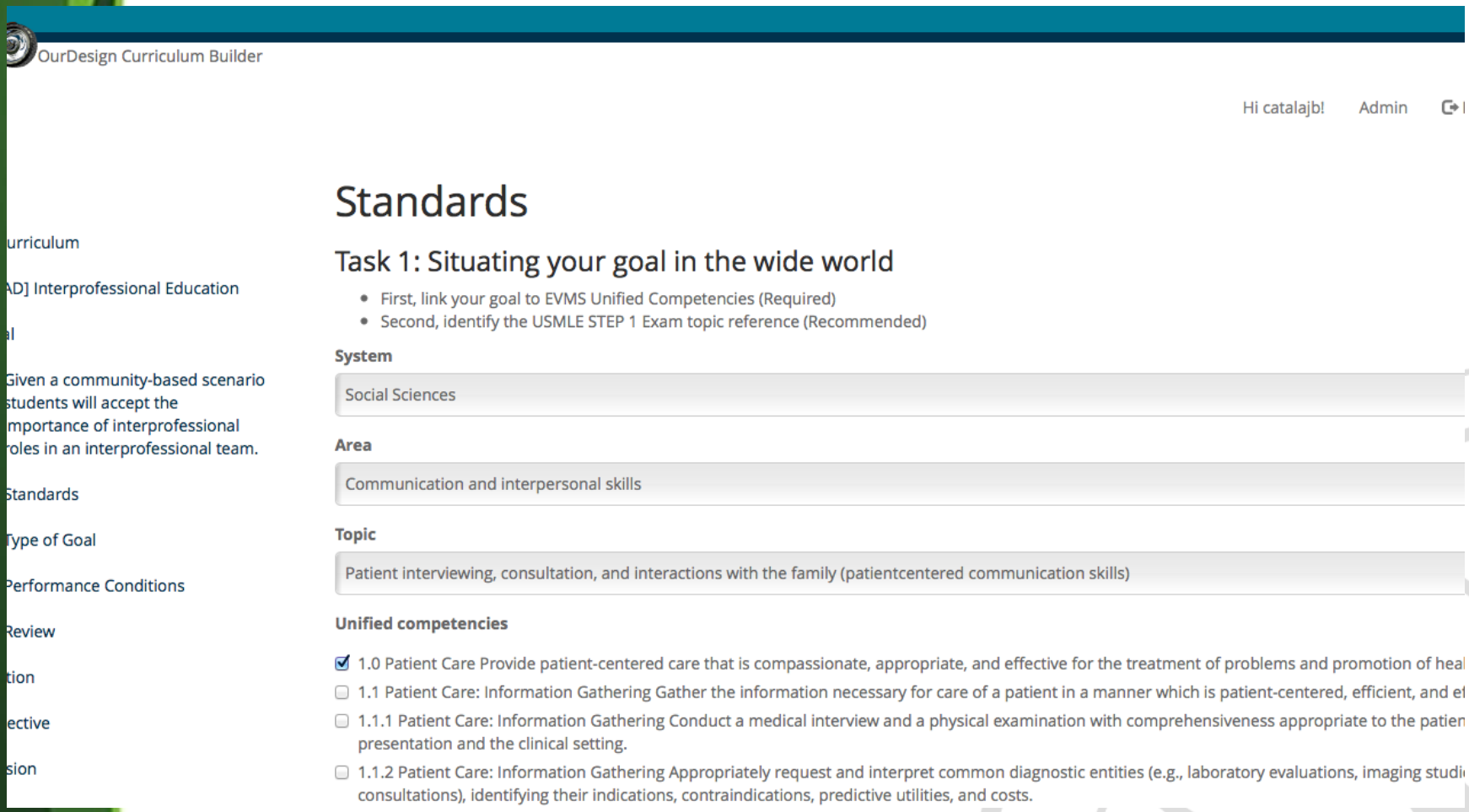
- Start
- View Curriculum
- Foundational Sciences I (M1)
  - Goal
  - Section
  - Objective
  - Session
  - Assessment
  - Review

Main Menu

Designing your module is a five step task. First you create your module goals. You have to complete these module goals before you do anything else. Then, you articulate your objectives (the building blo
learners to the point where they can accomplish the goals), you plan the sessions, then the assessments.

- Articulate your module goals
- Compile module sections
- Create objectives
- Plan sessions
- Plan assessments
- Review, print, and notify OME

Create a Goal



Review Goal

Review

Task 4: Review the goal

This is the final step. Here you check your work and make sure the goal says what you want it to say.

Performance Category	Internalize
The Module	[THREAD] Interprofessional Education
The 'Givens'	Given a clinical case
students will	internalize
Performance Acting Upon	the importance of interprofessional roles in an interprofessional team.

Statement

Given a community-based scenario students will accept the importance of interprofessional roles in an interprofessional team.

★ Next

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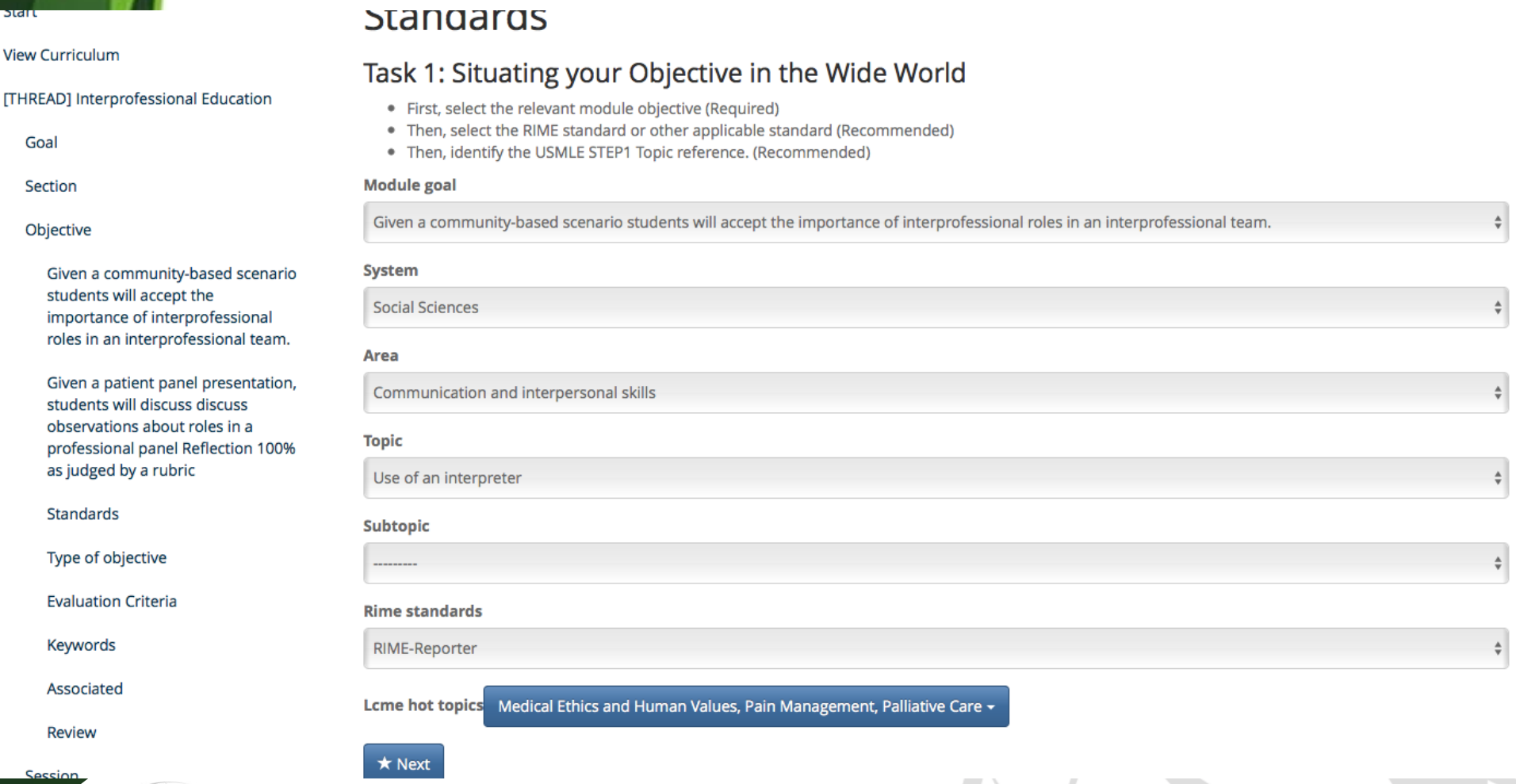
Create Objectives



Objective Summary

Review

Task 6: Review the objective

This is the final step. Here you check your work, make sure the objective says what you want it to say.

Performance Category	Analyze
The Module	[THREAD] Interprofessional Education
The 'Givens'	Given a patient panel presentation
students will	discuss
Performance Acting Upon	discuss observations about roles in a professional panel
Evaluation Method	
Criteria	None
Keywords	advocate, panel, patient, responsibilities, roles
Associated with Module Goal	Given a community-based scenario students will accept the importance of interprofessional roles in an interprofessional team.

Statement

Given a patient panel presentation, students will discuss discuss observations about roles in a professional panel Reflection 100% as judged by a rubric

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Plan Sessions

- Start
- View Curriculum
- [THREAD] Interprofessional Education
  - Goal
  - Section
  - Objective
  - Session
    - Medical Neuroscience Panel
    - Link
    - External Link
    - Identify
    - Save
  - Assessment
  - Review

Create a new session

Task 1: Create a session

Here you will type the topic name or title of a new session. Then, in the drop-down menu, you will assign objectives (that you created in the othe to that session. Finally, you will describe the time and other resources required for this session. All times are in minutes./p>

Name

Medical Neuroscience Panel

Learning exerience type

Panel

Session length

120

Check required venue

Large Lecture Hall

Required resources

- [x] AV Specialist for entire session
- [ ] Cadaver
- [ ] Clicker Technology
- [ ] Clinical Speciman
- [ ] Document Camera

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Linking

Link objectives to session

Task 2: Link objectives to this session

DIRECTIONS: First select the goal associated with the objectives you want, then select the objectives in the drop-down menu below. You can choose from four goals for one learning session.

Goal

Given a community-based scenario students will accept the importance of interprofessional roles in an interprofessional team.

Objectives

☑ Given a patient panel presentation, students will discuss discuss observations about roles in a professional panel Reflection 100% as judged by a rubric

Goal

Given a community-based scenario students will accept the importance of interprofessional roles in an interprofessional team.

Objectives

☑ Given a patient panel presentation, students will discuss discuss observations about roles in a professional panel Reflection 100% as judged by a rubric

Goal

Objectives

Goal

IAMSE

Plan Assessments

Review

Overall Summary Report

Course: [THREAD] Interprofessional Education

Module goal: Given a clinical scenario students will discover attitudes toward conflict resolution.

Module goal: Given a community-based scenario students will accept the importance of interprofessional roles in an interprofessional team.

Session Objective: Given a patient panel presentation, students will discuss discuss observations about roles in a professional panel Reflection 100% as judged by a rubric RIME-Re

Module goal: Given a community-based scenario students will discuss effects of personality type on team interactions.

Module goal: Given an online presentation, students will seek adherence to ethical principles, and sensitivity to a diverse patient population.

Module goal: Given a Service Learning context students will Interpret potential communication issues on an interprofessional team.

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Curriculum Suite

- Our Design Curriculum Mapper
  - Began as an Access Database
  - Made into an online web based tool
- Feeds into the CMAP curriculum mapper
  - Created in Access
  - Uses XML to feed the CIR for AAMC
- Then we realized we needed to create virtual cases for our new curriculum

Virtual Families
In the Careforward Curriculum

Don Robison, Ph.D., CPT

IAMSE