ACTIVE LEARNING - Foundations:

A welcoming learning environment that naturally engages and supports students in the process of learning through activities that promote higher order thinking. Multimodal activities should lead the learner to solve higher order cognitive problems through critical thinking, analysis, synthesis, and evaluation.

The Foundations Subcommittee of the Active Learning Task Force fully embraces the transition to active learning at the LCOM at UVM. To ensure success in this endeavor we have developed a collaborative model of educational infrastructure (Figure 1). We have also established a time line for design, roll out and assessment (Figure 2). Phase One of our implementation begins with the Classes of 2020 and 2021. Our first priority, due to the time investment inherent in the hiring process, is to establish the infrastructure necessary to support faculty in the development of an active learning curriculum. These immediate hires would include at least one instructional designer, one instructional developer, a content indexer and additional course coordinators. An additional instructional designer and instructional developers would be hired over the next year (Phase Two). Since, the two-year return cycle for FTARRS to departments has been recognized as an immediate impediment to development of our active learning curriculum, a parallel priority is the establishment of a fund that would allow the Foundations Director to approach Departmental Chairs to immediately purchase the time of key faculty recognized as developers of our active learning curriculum. Mindful development of the curriculum is essential to its success and it will not happen without protected time of the faculty developers.

Consistency and clear expectations are the foundation of our proposed active learning curriculum. This was the driving force behind our task force identifying and defining a select number of active learning modalities. Initially and to establish consistent and clear expectations for these modalities, a faculty standard operating procedure (SOP), a student SOP, and an operational SOP (intended use for IT and course coordinators) must be established for four modalities (TBL, PBL, PBL-D and Laboratory) by independent faculty committees. To facilitate consistency and faculty adoption we recommend the appointment of a "Faculty Champion" for each modality. We believe that it would be possible to add a fifth modality (Objectives in Action) by January 2018.

Successful implementation of an active learning curriculum will also require the following:

1. The addition of a computer, large-screen monitor, and chairs to all small HSRF conference rooms to greatly enhance the availability of required active learning spaces.
2. The LCOM Teaching Academy requires resources to support the development, administration and analyses of evaluations (peer-to-peer for both content and educational modality) to gather the evidence demonstrating that active learning will result in the best education of our students (second-to-none).
3. All stages – development, implementation and assessment – of the proposed active learning curriculum must remain student-centered. By working with the Student Education Group (SEG), students will become the LCOM Ambassadors for Active Learning. The development of this Student Ambassador group will lead to strong mentoring opportunities and an outstanding active learning-based curriculum.
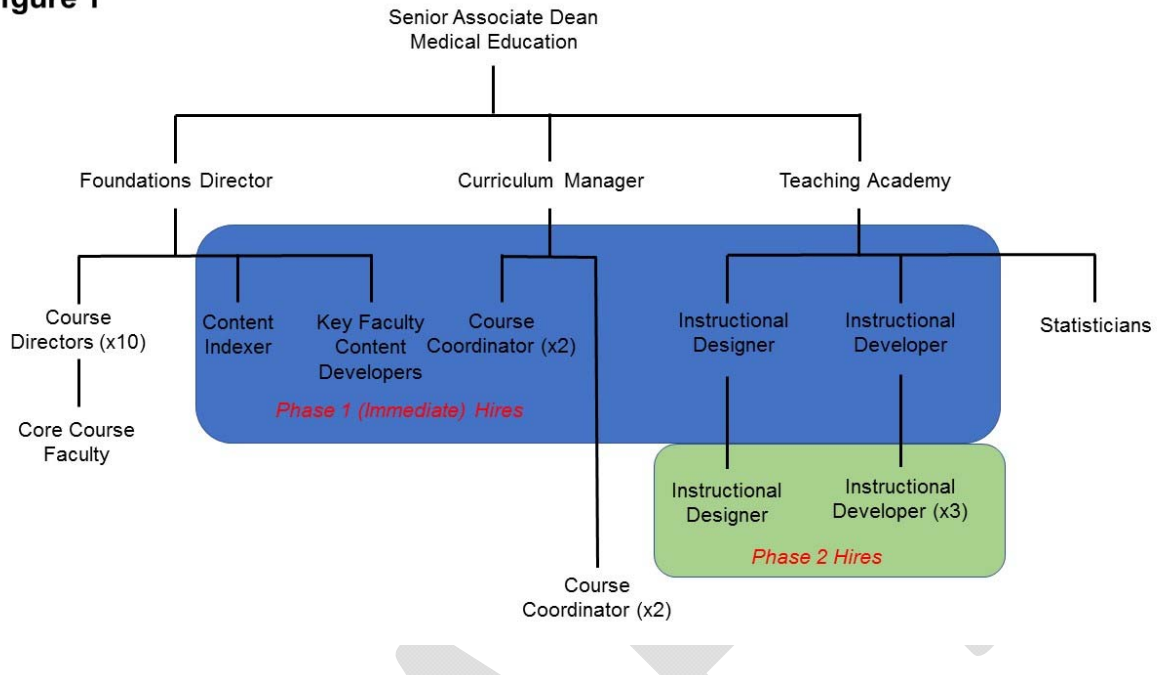
Figure 1

Figure 2

Executive Summary of the Active Learning Task Force, subcommittee on the Clinical Years

Lecture is a non-clinical instructional method used 25-84% of the time during the clerkship year at the Larner College of Medicine (LCOM). Over the years, our students have evaluated many of these lectures favorably. There is a body of evidence from research done on STEM curricula that retention and integration are better when material is delivered using active methods compared with traditional lectures. It is not clear how aware our clinical faculty is of this evidence supporting active learning. The combination of these factors may make replacing lecture with active learning methods challenging. LCOM will need to educate clinical faculty on the evidence for active learning and encourage the replacement of traditional lectures with active learning approaches to didactic material.

The Teaching Academy is the obvious source of faculty development supporting the institution of active learning methods in the clinical curriculum. . The subcommittee recommends that the Teaching Academy provides an instructional designer to aid the clinical faculty. This person would guide faculty in selecting an accepted active learning method, and assist with development of a new learning session and its implementation. The instructional designer would be the liaison between the faculty, clerkship director, Dana Library staff, COMIS support, and the Clinical Simulation Lab. Each department will need to identify early adopters and champions of active learning.

Our subcommittee envisions the incorporation of Core Clinical Presentations (CCPs) into the VIC. CCPs would be identified and objectives would be created with input from multiple specialties. The purpose of these CCPs is to provide integration between the individual Foundations courses and between the Foundation courses and the clinical curriculum. Collaboration with Foundations faculty would ensure instruction in basic science and background knowledge related to the objectives. Content, meant to be delivered in an asynchronous fashion during clerkship, would be created for use across all LCOM sites and campuses. Case-based learning sessions designed to develop student's clinical reasoning and application of knowledge would be created. Facilitator's guides would be available for each case based learning session. Clinical faculty at any site or campus would use the guide and provide specialty expertise as students work through cases. The CCPs would decrease unnecessary redundancy of covered material across different clerkships and improve comparability of rotations across all sites and campuses.

EXECUTIVE SUMMARY Learning Environment

The proposal from the Learning environment subcommittee represents recommendations based on a compilation of student wellness surveys and a comprehensive literature review of the charges the subcommittee was asked to address. In addition to creating a collaborative academic environment that thrives on excellence, this report details the need for a well-structured data repository that can be accessed to track short term and long-term student wellness, educational and professionalism outcomes that can be attributed to the curricular transformation occurring at the Larner College of Medicine.

Recommendations: In an effort to ensure that the learning environment is optimized to enhance student wellness and academic performance, we have the following recommendations:

1. Beginning with the matriculating class of 2017, all Foundations courses will be pass/fail.
2. Iterative development and integration of a metacognition curriculum into the preclinical and clinical curriculum.
3. Enhance and expand current advising structure.
4. Identify gaps in the current curriculum that can incorporate wellness activities
5. Introduce a structured service learning program that spans the entire four-year medical education curriculum.

Resource overview: IT support for wellness dashboard, Teaching Academy resources for faculty development, FTE support for a Service Learning Director and administrator.

Timeline for implementation:
A. September, 2017:

1. Develop infrastructure (software, data analyst) for a wellness dashboard which includes a unified data repository that will store results of the baseline and longitudinal assessments of student wellness, metacognition, educational performance, and attitudes towards service learning. This data repository will be critical for the ongoing evaluation and assessment of the LCOM curriculum and requires dedicated IT support, Teaching Academy resources and faculty.
2. Faculty development
   a. Provide Foundations course directors with the resources to
      i. Assess the optimal threshold for passing
      ii. Assess student professionalism behaviors
   b. Ensure Affiliate site directors are aware of support options for students at their facility and determine designated individual who will provide this information to rotating students.
3. Accrue a group of faculty who will work on developing a four-year metacognition curriculum; their immediate goal will be to develop a seminar/workshop on cognitive wellness for the first-year students.
4. Develop categories of distinction for students who go above and beyond in the Foundations curriculum.
5. Provide PCR advisors learning objectives and targeted workshops to ensure they have adequate training in their advisory role.
6. AOA committee to determine how best to incorporate pass/fail into AOA selection.
7. Recruit at least one dedicated (FTE supported) faculty and administrator who will prepare an initial proposal for integration of service learning blocks into the four-year curriculum.

B. December, 2017

1. Convene a working group of PCR and DIV members to determine how best to incorporate service learning into these two courses. This committee will work with the service learning faculty director.

2. Complete a needs assessment of specialty advisors with respect to protected time in their advising roles.
3. Initial draft of metacognition curriculum completed.

C. April, 2018

1. Meet with UVM Medical Center and affiliate site clerkship directors to discuss
   a. Possibility of protected time during clerkships
   b. Integration of service learning into clerkships
2. Completion of metacognition curriculum.
3. Service Learning Director will present final proposal for service learning curriculum.
4. Specialty advisors are provided with specific goals and objectives.

D. September, 2018

1. Metacognition curriculum ready for introduction for classes of 2021(MS2) and 2022 (MS1).
2. Service learning curriculum ready for implementation in all years.

ALTF Subcommittee on Scholarly Pathways Program - Report Summary

Committee: Pat King, MD (chair), Christian Berry; Tania Bertsch, MD; Bryce Bludevich; Elizabeth Cote; Jan Gallant, MD; Felix Hernandez, MD; Aaron Hurwitz; Charlie MacLean, MD; Donna O'Malley, MLS; Colleen Quinn, MD; Martha Seagrave, PA; Renee Stapleton, MD; Sheri Youngberg.

 Charge of Committee: To investigate and propose the development of specific pathways through the curriculum to specialize student interest and expertise in areas closely aligned with the practice of medicine. Our recommendations aim to provide an overriding framework for a Scholarly Pathways Program at LCOM.

The mission of the pathways program is to promote an opportunity for acquisition of knowledge and skills outside or the existing curriculum that will complement our current educational programs.   Hall marks of the program should include student self-directed learning, emphasis on impact on the patient and the community (local to global), and collaborative learning and peer teaching among students.

Goals for students: 1. Undertake scholarship that exhibits intellectual curiosity, independent creativity, and passion for discovery. 2. Pose and answer scholarly questions. 3. Demonstrate habits of self-directed lifelong learning, including self-analysis that leads to pursuit of knowledge and enhances enthusiasm for medicine. 4. Exemplify principles of collaborative leadership through project development, mentorship, and peer education.

 Goals for serving the patients and community: 1. Consider the needs of patients and community (local, state, national, global) with an emphasis on engagement. 2. Positively impact patients and community (local to global).

Goals for the institution: 1. Promote UVM culture as supportive, welcoming, and providing opportunity for all. 2. Provide an environment where all individuals can reach their full potential. 3. Emphasize opportunities for students to engage in life-long learning. 4. Develop an iterative and sustainable program, including recognizing student interest, financial costs, and faculty resources and development.

Recommendations: 1. Establish 5 scholarship pathways based on current strengths and student interest (public health, global health, rural health, research, and self-directed), with required participation and no extra tuition cost or extended time at UVM. 2. The first year Scholarly Core program will introduce the pathways and common topics that address core skills and knowledge that complement the pathways broadly (e.g., advocacy and leadership, reading medical literature). One half day a week should be dedicated to this activity. 3. In the second year, the students will focus on the pathway of choice working with the pathway leader, mentors and student peers in the pathway, and consider formulation of questions for pathway projects. 4. During third year, pathways activities should be present in Bridges and potentially concurrent with the core rotations, depending on the pathway (e.g., rural health project if in the LIC). 5. In the fourth year, students would complete the pathway projects. In addition, students would choose an elective (s) as part of a "Senior Collaborative Learning" program bringing together students from varying pathways to promote collaborative learning and exchange of ideas (e.g., elective in ethics or social determinants of health).   The activities of these electives should be rigorous, reflect a more advanced student's readiness and needs, and work to integrate their various experiences.   5. Faculty should include a Pathway Program Director, individual Pathway leaders, and multiple mentors.

Highlights of required elements of a Pathway: Each pathway should have specific goals that relate to the overall general goals and mission of the program. Each pathway should clearly outline a defined product of the student's participation that includes a student generated project. Projects will vary with the pathways but should consider engagement with and/or benefit to patients and community. The pathways should be pass-fail. Mentors will be an important part of the program and continuous development for mentors should be a priority. Emphasis should be given to assessment of outcomes for students, patients and community, and

UVM LCOM, both on a short and long term basis, and the programs modified and improved based on these data.

Timeline

October 2016 – Dr. Jeffries informed the Medical Curriculum Committee, the dean had mandated a move to active learning.

October 27, 2016 – email invitation for nominations to the Active Learning Task Force sent out, over 80 people expressed interest.

December 2017 - The sub committees where formed to design a process to accomplish the changes in three major areas: Active Learning, Track-based Education, Student Well-being/Learning Environment. The process will be in three phases, early planning/development, large group consultation (at the LCOM Curriculum Review) and strategic plan development. Committees where charged with completing their work by May 1, 2017. Subcommittees met at least once prior to the February Curriculum Review.

February 3, over 70 faculty, student and staff attended the curriculum review and were charged with review of elements of the curriculum and learning environment to ensure optimal use of resources, appropriate pedagogy and set strategic direction for the medical education mission of the LCOM.

February – May, 2017 – All subcommittee met several times to work on their respective charges using the input from the curriculum review.

May 1, 2017 – all subcommittee reports received.

May 16, 2017 – Subcommittee chairs present their proposals to the Medical Curriculum Committee.