



CHM Learning Academy: Medical Education Through Shared Discovery

March 2016

Shared Discovery Curriculum... the Road Ahead



What would happen to education if we took education evidence seriously? This provocative question is actually the title of a recently published paper. In their [paper](#) the authors suggest that educational practice and educational research are misaligned. Too much attention is focused on strategies for content delivery, which in reality is only a small part of the process of learning. If we realigned educational practice with what is known from cognitive sciences, organizational development and social learning theories, they offer multiple approaches to improving an educational system that has changed little from the eighteenth century. They focus on six areas of research where evidence exists about how to facilitate learning.

Elaboration is the active processing of information by learners, and includes many possible strategies such as discussions to apply content to cases, creating summaries, tables and diagrams, restating information in one's own words, etc. In many cases, elaboration only takes place by learners individually, at the end of a course as they prepare for exams. There is compelling evidence that working with information enhances understanding and learning, and moves beyond strategies that focus solely on content transmission.

Cooperative Learning, that is learning with others, is more effective than learning individually. Learning with others is most productive when group members equitably participate and take responsibility for the group's learning. While there are some disadvantages to group learning, they are outweighed by the benefits. The team-based nature of health care delivery means that learning in cooperation with others will not only enhance learning but can also enhance the ability to work with others and participate in what has become a team-based profession.

Feedback is one of the most powerful components of learning and in many educational systems it is limited to test scores and course grades, which represent the poorest quality of feedback a learner can receive. Narrative feedback from a credible source that is specific to desired outcomes is the most effective form of feedback. When incorporated as part of a dialogue that includes follow-up on feedback and resources to support change, the impact of feedback can be maximized.

Mentoring helps to support learners through the use of reflection and feedback to enhance personal and professional development, as well as enhance engagement and reduce burnout. Mentors can support the intrinsic motivation of learners, through coaching to enhance performance and asking questions rather than providing answers. Mentoring is typically underused in medical education because of the time required and the lack of incentives for faculty, as well as structure of the curriculum that does not support longitudinal relationships. Mentoring programs, a supportive environment and shared commitment all can enhance the outcomes of mentoring relationships.

Engagement is the opposite of burnout and represents a high level of satisfaction for learners and faculty. In the organizational psychology literature, engagement is supported through environments that support autonomy, social support and coaching, diversity, teamwork, meaningful challenges and self-control. Engagement builds intrinsic motivation, which increases the likelihood of success and sustained resolve in the face of challenges. Traditionally, engaging is not how educational settings have been characterized, with external controls, boring tasks, limited support, stressful exams and poor feedback. Educational programs have traditionally been more teacher-centered than learner-centered, which tends to create learning environments that learners find unsupportive, depressing and stressful.

Learning in a Social Context clearly focuses attention on learning as a social and collaborative enterprise rather than an individual experience. Medical school is largely based on apprenticeship, which is learning by watching, learning by participating and learning by imitating. To the extent learning environments limits

learners' opportunities to learn from others, the power of social learning to develop skills, build professional identity and apply knowledge is lost.

The **Shared Discovery Curriculum** goes a long way to address the misalignment of research and practice in medical education. Many though not all of the concerns raised by the authors have been addressed, guided by the [principles](#) underlying the Shared Discovery Curriculum. The infrastructure provided by the student learning societies supports longer-term faculty-student mentoring relationships. The use of portfolios will provide rich formative feedback and progress testing will yield summative feedback measured against consistent developmental criteria. Early meaningful clinical experiences will support learning that is active, social and cooperative. Whether we intended or not, we soon might be able to answer the rhetorical question posed by van der Vleuten and Driessen.

Some of you receiving this newsletter have already made your commitment to the CHM Learning Academy. Others of you are in the process of balancing the feasibility of this role with other commitments and opportunities. I hope you find the information useful. If you follow the links to additional resources, I expect you will soon realize how truly innovative the approach we are taking will be. I hope it helps you better visualize the part you will play in this amazing process. Of course, it will raise questions and as always I will do my best to provide answers in subsequent newsletters as more information becomes available. In the meantime, please feel free to contact me ([Brian Mavis](#)).

What Teaching and Curriculum Opportunities are There Outside of the Learning Societies?

Below is a list of teaching and curriculum development/support opportunities for faculty who are looking for additional opportunities. While our efforts are obviously focused on the first year of curriculum that we will need for the incoming students—the Early Clinical Experience (ECE)—other opportunities exist or will become available as the curriculum rolls out. Here are some of the possible roles, some of which involve working directly with students and some of which is related to designing student learning experiences or reviewing proposed curriculum content.

- JIT / C3 Document Expert Content Reviewer
- Curriculum Development Groups
 - ECE CDG
 - MCE CDG
 - LCE CDG
 - Intersessions CDG
- Intersessions
 - Course Director
 - Teaching
- Progress Testing
 - Case development
 - Case grading
 - Necessary science questions
- Simulation/Clinical Skills
 - Case development
 - Necessary science questions
 - Coaching clinical skills
- Large Group Experiences
 - Curriculum development
 - Teaching
- PBL Case development

Need an Acronym Cheat Sheet?

[Click here](#) to download a list of commonly used acronyms. We do try to explain them along the way, but alas, it doesn't always happen, or occur consistently. This document might help.

What will a Typical Week Look Like?

A typical “Week in the Life” of an Early Clinical Experience student will have these components: large group learning session (red block), time in clinical settings twice per week (green blocks), scheduled sessions to learn clinical skills and clinical reasoning (yellow), lab sessions (gray) and post-clinic groups (blue). The

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
MORNING	Large Group Session <i>based on Team-Based Learning, Integrative Clinical Correlations, Lectures and other Formats</i>	Clinic Time	Simulation/Clinical Skills Sessions	Guided Independent Learning	Clinic Time
AFTERNOON	Guided Independent Learning	Post Clinic Group	Lab Session		Post Clinic Group
		Lab Session			

post-clinic groups will be the learning society meetings, where faculty and students will debrief on the clinic experiences and engage in modified problem-based learning to learn necessary science outlined in the C3 documents for the chief complaint and concern (C3) of the week. See the information in the next section below about how to access the C3 documents that will be covered as part of the Year 1 curriculum.

The typical “Week in the Life” schedule depicted here is one possibility. In reality,

there will be 12 variants of the students’ schedules to accommodate our class size. Each variant of the schedule will have all of the same components, configured differently throughout the week. The two constants: Monday morning will be a large group session for all students, and the post-clinic groups will always follow a half-day of clinic time, either the following afternoon or the next morning. More on the specific variants of the student schedules in the next newsletter.

Where Can I See the Curriculum Documents (C3) Related to the Year 1 Curriculum?

The new curriculum is organized around the patient experience, focusing on the chief complaints and concerns that might be the motivation for a patient to access the health care system. This represents a move away from the more familiar discipline-based and organ-system models of many medical schools including our own legacy curriculum. The new curriculum is integrative across disciplines and the content is organized around documents describing patients’ chief complaints and concerns (C3 documents).

The following C3 documents are the basis for the Early Clinical Experience (ECE) curriculum for first year medical students. Click on the topics below to open the document. For a complete listing of the C3 documents, [click here](#). Click on the document name below to open the C3 document; each of the document sections can be expanding by clicking on the section heading:

- **Abdominal Pain**
- **Anxiety**
- **Blood Glucose Regulation**
- **Blood Pressure Concerns**
- **Depression**
- **Dizziness**
- **Dyspnea**
- **Dysuria**
- **Health Maintenance**
- **Immunizations**
- **Joint Pain**
- **Palpitations**
- **Temperature Regulation**
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What is Just in Time Medicine (JIT) that I Keep Hearing About?

JIT is our curricular shorthand for Just In Time Medicine, which is the content management system for the new curriculum. You can learn more about JIT [here](#). As we continue to pilot small group sessions on Chief

Complaint and Concerns (C3) topics, we provide the pilot students with a link to Just In Time Medicine (JIT). The link to JIT gives them suggestions for their preparation of the post clinic group sessions for the upcoming week. This link provides them with the calendar for the week as well as the expectations for their learning. It describes the “big picture” as well as the “key concepts” for the topic of the week. It also links them to all necessary library resources to complete their studies.

To see an example of an actual post-clinic group session, here is the hyperlink that was provided to them before the [Hypertension post clinic group](#) (PCG) was pilot tested.

* **NOTE** that you will need access to the MSU library in order for all of the links to work within JIT.

How Can I Access Digital Learning Resources at the MSU Library?

All CHM faculty can access the MSU library and the many many digital resources that are available online. This includes medical school textbooks as well as a majority of the current medical journals.

To access these resources you will need your [MSU NetID](#). For more information about MSU NetIDs and how to access the MSU library go to this [Frequently Asked Questions](#) page.

Meet DR MERL: Dependable Reviews of Medical Education Research Literature

As the name implies, [DR MERL](#) is a collection of reviews of the latest research in medical education. *Academic Medicine*, *Medical Education* and *Teaching and Learning In Medical Education* are a few of the medical education journals regularly scanned by our reviewers to find interesting and relevant research articles. Physicians and medical school educators (from [Rutgers Robert Wood Johnson Medical School](#) and other medical schools) then write short 150-200 word reviews. The goal of **DR MERL** is to disseminate succinct reviews of medical education research to our teaching faculty to keep them up-to-date on the most important medical education research. The February issue of DR MERL can be viewed [here](#).

Here are Links to Some Useful Resources...

- To read about the innovative clinical skills and necessary science progress test we have developed and piloted for the Shared Discovery Curriculum, take a look at '[Progress testing 2.0: clinical skills meets necessary science](#)' by Jonathan Gold, Robin DeMuth, Brian Mavis, Dianne Wagner
- For a one-stop general information source, take a look at the [Shared Discovery Curriculum Folio](#)
- [Links to all the Town Hall presentations can be found here](#)
- The February issue of the CHM Academy Newsletter can be accessed [here](#).
- The January issue of DR MERL can be viewed [here](#).