Blending Online Learning with Clinical Rotations

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Disclosures

• None
Learning Objectives

• Describe the similarities between the pedagogic approaches of online collaborative learning (OCL) and problem-based learning (PBL)

• Explain the benefits of OCL for learnings, particularly for those at geographically dispersed clinical training sites.

• Describe online programming for 3rd year pediatric and 4th year family medicine rotations.
# Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Format</th>
<th>Facilitators</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 min</td>
<td>Welcome and Introduction</td>
<td>Large Group Discussion</td>
<td>Langenau and Becker</td>
</tr>
<tr>
<td>10 min</td>
<td>Online Learning</td>
<td>Didactic Presentation</td>
<td>Langenau</td>
</tr>
<tr>
<td>10 min</td>
<td>Benefits and Challenges</td>
<td>Large Group Discussion</td>
<td>Langenau</td>
</tr>
<tr>
<td>10 min</td>
<td>Family Medicine Example</td>
<td>Didactic Presentation</td>
<td>Becker</td>
</tr>
<tr>
<td>10 min</td>
<td>Pediatrics Example</td>
<td>Didactic Presentation</td>
<td>Langenau</td>
</tr>
<tr>
<td>10 min</td>
<td>What are you doing?</td>
<td>Large Group Discussion</td>
<td>Becker</td>
</tr>
<tr>
<td>5 min</td>
<td>Wrap up and Conclusion</td>
<td>Large Group Discussion</td>
<td>Langenau and Becker</td>
</tr>
</tbody>
</table>
Welcome
Online Learning

• Definitions
  – eLearning
  – Asynchronous
  – Online Learning
  – Blended Learning
  – Web-enhanced Learning
  – Online Collaborative Learning

• Technologies
• Gaming
• Trends
• Role of instructor
Online Learning

- eLearning

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Asynchronous versus Synchronous

Asynchronous
- Different time
- Examples
  - Discussion Boards
  - Content review
  - Menu Driven Simulations (CLIPP, Doc.Com)

Synchronous
- Same Time
- Examples
  - Webconference
  - Teleconference
  - Live Simulations (Second Life)
# Online Learning

<table>
<thead>
<tr>
<th>Proportion of Content Delivered Online</th>
<th>Type of Course</th>
<th>Typical Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>Traditional</td>
<td>Course with no online technology used — content is delivered in writing or orally.</td>
</tr>
<tr>
<td>1 to 29%</td>
<td>Web Facilitated</td>
<td>Course that uses web-based technology to facilitate what is essentially a face-to-face course. Uses a course management system (CMS) or web pages to post the syllabus and assignments, for example.</td>
</tr>
<tr>
<td>30 to 79%</td>
<td>Blended/Hybrid</td>
<td>Course that blends online and face-to-face delivery. Substantial proportion of the content is delivered online, typically uses online discussions, and typically has some face-to-face meetings.</td>
</tr>
<tr>
<td>80+%</td>
<td>Online</td>
<td>A course where most or all of the content is delivered online. Typically have no face-to-face meetings.</td>
</tr>
</tbody>
</table>

Online Collaborative Learning (OCL)

- Three main tenants
  - Discourse
  - Collaborative Learning (e.g. groups, interaction)
  - Knowledge building
- Facilitated small groups
- Learner-centered, self-directed
- Online or eLearning, often asynchronous
- “Computer-Supported Collaborative Learning”

Online Learning

The Pedagogy Wheel, V4.1


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Gaming

<table>
<thead>
<tr>
<th>Title</th>
<th>Publisher</th>
<th>Description</th>
<th>Advantage</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtual Patient Simulations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3DiTeams</td>
<td>Duke University Medical Center</td>
<td>Emergency department team training with virtual simulation controlled by an instructor</td>
<td></td>
<td>Purchase download</td>
</tr>
<tr>
<td>At-Risk in Primary Care</td>
<td>Kognito</td>
<td>CME- and CNE-approved online virtual patient simulations in various clinical scenarios</td>
<td></td>
<td>Publisher website</td>
</tr>
<tr>
<td>CliniSpace</td>
<td>Innovations in Learning, Inc</td>
<td>3D, immersive, virtual simulation team training in acute, critical care, and daily medicine</td>
<td></td>
<td>Purchase download</td>
</tr>
<tr>
<td>DecisionSim</td>
<td>Kynectiv, Inc</td>
<td>Faculty create virtual patient scenarios and use them to evaluate participants at all levels</td>
<td></td>
<td>Purchase download</td>
</tr>
<tr>
<td>CLIPP</td>
<td>MedU</td>
<td>Online patient cases for education using a medical home model</td>
<td></td>
<td>Free website access</td>
</tr>
<tr>
<td>HumanSim</td>
<td>Virtual Heroes</td>
<td>Medical schools may commission immersive 3D interactive virtual scenarios for health care training</td>
<td></td>
<td>Publisher website Informational video</td>
</tr>
<tr>
<td>i-Human</td>
<td>i-Human Patients, Inc</td>
<td>Online interactive, competency-based virtual patient encounters</td>
<td></td>
<td>Purchase download</td>
</tr>
</tbody>
</table>


Online Learning Trends

Role of the teacher

• Facilitator
  – Encourage learners to make connections and build upon past experiences and knowledge (constructivism)

• Technology
  – Let the pedagogy drive the technology
  – What do you want to do (teach)?
  – What technologies can best help you do that?

• Instructional Design
  – Use learning objects to engage learners
  – Assist learners in making connections (not simply a collection of unrelated online or gaming activities)

Is this about Online education, or just good teaching?
Benefits and Challenges

- What do you think?
Benefits

• Provide an adjunct to face-to-face (F-2-F) clinical instruction
• Engage students in multiple geographically-separated training locations
• Provide consistency in educational experiences
• Ensure compliance with meeting learning objectives across clinical sites
• Engage students “off hours” with asynchronous learning opportunities

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Opportunities (Challenges)

- Limited experience with online education (physicians > students)
- Disconnect between F-2-F and online instructors
- Expanded expectations (typically “off hours”) for faculty participation
- Culture change (institution, faculty, students, and preceptors)
PCOM Examples

- Blackboard
- Content
- Discussion Boards
- Group Assignments
- Blogs
- Online training (Open School)
- Menu-driven simulations
Greetings and welcome to the Philadelphia College of Osteopathic Medicine's Urban Health Care Center Rotation student eLearning module.

Student Curriculum

The system of health care delivery is ever-changing. One of the significant transformations in Family Medicine, nationwide, is the adoption of the PCMH model.

As practicing physicians, you will need to become familiar with the history, concepts and all the working aspects of this method of health care delivery.
Family Medicine: Learning Objectives

1. Explain consequences (professional and patient safety) of improper documentation in the EHR
2. Demonstrate self-reflection as a tool to improve patient care.
3. Identify the rationale and benefits of the Patient Centered Medical Home Model (PCMH)
4. Describe barriers of a PCMH
5. Define common terms used to explain patient safety concepts
6. Explain the elements of a fishbone diagram, as a method to address patient safety issues
7. Describe the elements of a quality improvement infrastructure.
8. Explain the threats to Quality Improvement in patient care.
9. Develop a Quality Improvement project.
10. Report the required components and value of teamwork in health care delivery.
11. Identify specific leadership skills required for a successful osteopathic physician.
12. Define population health.
13. Explain the relationship between population health and PCMH
14. Recognize examples of ethical challenges seen in the patient care setting
15. Understand the implications of social media with respect to ethical patient care.
16. Describe the proper approach to managing a medical mistake.
17. Describe the components of the Chronic Care Model of health care.
18. Demonstrate two Motivational Interviewing based approaches for enhancing motivation for health behavior change.
19. Identify four situations where referral to Behavioral Health services is indicated.
20. Incorporate time efficient OMT in the delivery of ambulatory primary care.

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Family Medicine
Behavioral Medicine Learning Objectives

After the Urban Healthcare Center Rotation, students will be able to:

1) demonstrate 2 MI-based approaches to enhancing motivation for health behavior change;
2) identify 4 situations where referral to behavioral health services is indicated
An Example of Implementation of PCMH

Additional Readings on PCMH

Discussions for Week Two

Please review the five questions below, and then contribute to our discussion by posting your thoughts to at least one question to our Week Two Discussion Board. The discussion board affords opportunities for students to develop connections from their clinical experiences and reading assignments. This educational experience will permit you to develop a deeper level of mastery of the highlighted topics. Discussion boards are meant to encourage communication, teamwork, and dialog among peers, this can be accomplished by commenting on other students’ posts, as well as responding to comments made on the original discussion post. Please post your initial entry by Tuesday evening. Do not use patient names or identifiable information when discussing clinical activities. Should you wish to discuss a specific patient issue, please do so “offline” with a faculty member at your site. If you have questions regarding HIPPA or other confidentiality issues, speak directly with a faculty member as directed above.

1. Describe the Huddle and discuss its significance.
2. Discuss staff interpersonal relations.
3. Are and if so, why are same day appointments important to the PCMH?
4. What role does providing timely clinical advice by phone or electronic messaging during office hour play? Discuss.
5. Discuss documentation and its role in the PCMH.

Discussion Board for Week Two

Andrew Taylor Still

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Family Medicine

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What role does providing timely clinical advice by phone or electronic messaging during office hour play?

I worked at an outpatient internal medicine office that was a patient centered medical home. One of the factors in that practice that I thought was interesting and useful was the patient portal in their EMR. Some of the tech savvy patients really appreciated this option because their labs were readily available to access. This was able to save some time and was more efficient than the game of phone tag that can often result when trying to deliver the results over the phone. In addition, the patients had a direct line through the portal to contact the physician with any questions about their recent visit. Physicians were able to answer simple questions the patients had through this portal very quickly. On the other side of the issue, several of the physicians at this practice believed that the patient portal was good in theory, however not so much in practice. One of the more common complaints that I witnessed was that the patients were trying to ask questions about new issues that did not pertain to a new visit. Overall, I thought this was a very good and efficient tool for patients who opted to use it. It gave them a little more interaction/satisfaction with their health care.

Michael Becker

RE: What role does providing timely clinical advice by phone or electronic messaging during office hour play?

Thanks Mike. We are anticipating getting a patient portal connected to our EMR in the near future. We shall see how it works out then.
Family Medicine

Glossary of Patient Safety Terms

An Example of a Patient Safety Tool

Lessons Learned from the Veterans Administration

Fishbone Revised

Root Cause Analysis (RCA) Process Flow Diagram

Articles on Patient Safety for Discussion Board

Attached Files: Cancer Risks Associated With External Radiation From Imaging.pdf (441.974 KB)
- Antibiotic Prescribing to Adults With Sore Throat S.pdf (289.665 KB)
- Delayed prescribing of antibiotics.docx (24.807 KB)
- Effectiveness of Interventions in Reducing Antibiotic S.pdf (167.54 KB)

Please refer to one of these four articles for the Discussion Board on Patient Safety. The discussion board affords opportunities for students to develop connections from their clinical experiences and reading assignments. This educational experience will permit you to develop a deeper level of mastery of the highlighted topics. Discussion boards are meant to encourage communication, teamwork, and dialog among peers; this can be accomplished by commenting on other students’ posts, as well as responding to comments made on the original discussion post. Please post your initial entry by Tuesday evening. Do not use patient names or identifiable information when discussing clinical activities. Should you wish to discuss a specific patient issue, please do so “offline” with a faculty member at your site. If you have questions regarding HIPAA or other confidentiality issues, speak directly with a faculty member as directed above.

Thank you.
Family Medicine

I have had several patients come in asking for antibiotics for URI's and other symptoms/diseases that they believe they have and need antibiotics for. Sometimes it is difficult to tell them that they do not need them because despite explaining to them the difference between viral vs. bacterial they say that they know their body and their other doctor gave them antibiotics last time. As health professionals as a team, we need to stand by what we know and not give in to please the patient. In the end continuing to give them antibiotics will only hurt them by causing resistance to medications and making our job in the long run harder. If all doctors are on the same page and tell them to wait a few days to see if the symptoms improve and then prescribing medications if needed could help this dilemma.

I agree. When I was on my family practice rotation, one of the physicians would write a prescription for patients and then tell them to only use it if the symptoms didn’t resolve in a few more days. I’m pretty sure that this is not in compliance with prescribing rules or best practice guidelines. However, it did allow patients to have autonomy over their care and allow them to avoid a second doctors visit. This obviously places a lot of trust in the doctor/patient relationship, and that the patient will only use these medications appropriately. At this point in my training, it is not something I would be comfortable doing, but the attending I was with knew each of the patients and all about the patients family members so I think there was a lot more trust between them.
Family Medicine

https://pcom.blackboard.com/webapps/blogs-journals/execute/blogTopicList?course_id=_12632_1&content_id=_427022_1&blog_id=_1670_1&action=contentList&mode=view

Chief Intern Blog

Create Blog Entry

Blog Instructions

After reviewing the material on Teamwork and Leadership imagine yourself starting your residency after graduation. You have been selected to be the Chief Intern of your first-year residency class. Please blog on your first day as Chief Intern. Suggestions for your blog can include: your leadership abilities, your personal challenges, your problem-solving approaches, your barriers to be an effective leader, your ability to effect change in your program, or any other issues that you anticipate for this position. The blog affords opportunities for students to develop connections from their clinical experiences and reading assignments. Please post your blog entry by Tuesday evening. Do not use patient names or identifiable information when discussing clinical activities. Should you wish to discuss a specific patient issue, please do so “offline” with a faculty member at your site. If you have questions regarding HIPPA or other confidentiality issues, speak directly with a faculty member as directed above.

This Blog has no entries.

Use the function above to add one!

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Family Medicine

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Family Medicine

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Family Medicine

• Lessons Learned
  – Blended Learning **cannot** be on autopilot.
  – “If you build it they will come.”
  – Time commitment for both students and faculty
  – Faculty & Administration by-in
  – Self-directed Learning is a skill that requires practice.
  – “Learning is its own reward.”
  – Keep it fresh.
  – Learning now occurs in many different settings
Pediatrics

Welcome

Welcome to the blended-learning supplement for 3rd Year Pediatric Clerkship, a blended-learning course with direct clinical education and e-learning activities.

Pediatrics is a dynamic field, spanning preconception through early adulthood. General pediatrics is considered a primary care specialty, but it also includes a number of subspecialties such as Pediatric Emergency Medicine, Adolescent Medicine, Critical Care, Cardiology, Pulmonology, immunology, among many others. Following a holistic care tradition, all osteopathic physicians are expected to be familiar with diseases and health across the patient’s lifespan. Whether you plan on pursuing a career where you will be caring for children or not, being familiar with pediatrics will help you become the best osteopathic physician, parent, aunt, uncle, etc. All PCOM students are expected to learn the basics of pediatrics and caring for children.

During this rotation, students will have the unique opportunity of combining face-to-face clinical experience with a number of other learning activities, such as e-learning opportunities and community partnerships. While seeing patients in the clinical setting, students will learn various aspects of pediatric care and applications to patients. You may not be seeing patients every day of the week during this rotation; during this time, you will spend time participating in e-learning activities (reviewing video vignettes, exploring videos, engaging in discussion boards and remote clinical encounters, reflecting on experiences) and exploring community outreach programs for children in the Philadelphia area.

Students are expected to actively participate in both face-to-face and e-learning educational activities. Participating students must be motivated and excited to learn to apply learning technologies to clinical education.

Blended-Learning Supplement for 3rd Year Pediatric Rotation Syllabus

Course Schedule: Week One

<table>
<thead>
<tr>
<th>Week</th>
<th>Learning Goals</th>
<th>Learning activity</th>
<th>Deliverables</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>Communication with children and families</td>
<td>Attend orientation with Dr. Demeny.</td>
<td>Introduction Blog</td>
</tr>
<tr>
<td></td>
<td>Vaccination</td>
<td>Attend EMR orientation to NextGen (if applicable)</td>
<td>Discussion Board</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Attend clinical days at clinical rotation site (BID by site direction)</td>
<td>Introduction Blog and share information about yourself, your interests, professional goals, experience with children, and three specific goals for the rotation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maintain clinical patient log for all pediatric patients seen.</td>
<td>Participate in weekly discussion board.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post an Introduction Blog and share information about yourself, your interests, professional goals, experience with children, and three specific goals for the rotation.</td>
<td>Complete one CLIP Case.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Complete CLIP Case (provided by Dr. Demeny)</td>
<td>Three CLIP Cases.</td>
</tr>
</tbody>
</table>
# Pediatrics

<table>
<thead>
<tr>
<th>Face-to-face components</th>
<th>Examples and Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical teaching (3-4 days per week)</td>
<td>Clinical precepting with the pediatrician</td>
</tr>
<tr>
<td>Direct observation evaluation (two)</td>
<td>Formative assessment completed by the pediatrician preceptor</td>
</tr>
<tr>
<td>Case log</td>
<td>Students maintain a log of patients seen during the rotation</td>
</tr>
<tr>
<td>History and physical forms (four)</td>
<td>Students submit four H&amp;P forms for patients for specified ages</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-learning components</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion Boards (four)</td>
<td>“After watching the video, <em>Pediatric Examination</em>, identify strategies that may help you interact with children and families.”</td>
</tr>
<tr>
<td>Blogs (two)</td>
<td>“Post an introduction blog and share information about yourself, interests, professional goals and experience with children; note three specific goals you want to achieve for this rotation.”</td>
</tr>
<tr>
<td>Podcasts (four)</td>
<td>Weekly summary of learning objectives and orientation</td>
</tr>
<tr>
<td>Virtual patient encounters (12-32)</td>
<td>Pediatric Computer-Assisted Learning in Pediatrics Program (CLIPP)</td>
</tr>
<tr>
<td>Website Links</td>
<td>Centers for Disease Control and Prevention (CDC). Vaccine Administration, and other important sites such as American Academy of Pediatrics Bright Futures, KidsHealth and GeneTests</td>
</tr>
<tr>
<td>Video demonstrations</td>
<td>American Academy of Pediatrics (AAP). View Through the Otoscope</td>
</tr>
<tr>
<td>Narrated presentations</td>
<td>Faculty create Power-Point presentations for students to review</td>
</tr>
<tr>
<td>Articles and resources</td>
<td>A number of articles, clinical guidelines and references are posted</td>
</tr>
<tr>
<td>Community resource summary</td>
<td>Students identify a Philadelphia-based community resource for patients, write a summary and post it on the course site</td>
</tr>
<tr>
<td>Case write-up</td>
<td>Students prepare a formal case write-up and share it with students on the course site</td>
</tr>
<tr>
<td>Podcasts</td>
<td>Orientation and summary of learning objectives are presented as podcasts for each week of the course</td>
</tr>
<tr>
<td>Online training modules</td>
<td>California Vaccines for Children. EZIZ Vaccine Administration Online Training</td>
</tr>
</tbody>
</table>
Pediatrics

Med-U: Computer-Assistant Learning in Pediatrics Program (CLIPP)

Examples

Case 7. Newborn with respiratory distress: Adam
Case 8. Six-day-old with jaundice: Meghan
Case 17. Four year old refusing to walk
Case 19. Sixteen-month-old with first seizure: Ian
Case 21. Six-year-old boy with bruising: Alex
Case 22. Sixteen-year-old with abdominal pain: Mandy
Case 24. Two-year-old with altered mental status: Madelyn
Case 25. Two-month-old with apnea: Jeremy
Case 26. Nine-week-old with failure to thrive: Bobby
Case 29. Infant with hypotonia: Daniel
Case 31. Five-year-old with puffy eyes: Katie

http://www.med-u.org/clipp
Pediatrics

• Lessons Learned
  – Get Feedback from Students
  – Get buy-in from faculty and leadership
  – Acknowledge this is a learning experience
  – Spend time designing, selecting and organizing the content
  – Vary the methods (videos, reading, simulations, games)
  – Expect to spend time on this. Facilitation takes commitment, organization and time
  – Re-evaluate (ADDIE, PDSA)
Your experiences?

• What are you doing?
Reflections and Take Home Points
Thank You

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References

- Stravredes T, Hereder T. A guide to online course design. 2014