Administrative and Infrastructure Issues for Online Courses

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Admin/Infrastructure Workshop Agenda

- Part 1: Introduction
- Part 2: Setting the Stage
  - Global drivers, Possible projects
- Part 3: Framing the Process
- Lunch
- Part 4: Activity
Goals and Objectives

- Understand the infrastructure issues involved with online program development and delivery with building capacity at the individual and organizational levels

- We’ll focus on: Culture, Content, Capability and Capacity, Connectivity
Today’s Activity

- You are part of a team planning to move toward an online B.Ed. Teacher Education Program at your university.
  - What are the roles, who should be the members of the team?
  - What are the broad areas (finances, staffing, support the curriculum, promoting the program, etc.) you need to consider?
  - Pick a project (or two) around which to base your proposal

- Presentation to your Vice Chancellor (the group)
Part 1: Introductions
Vijay’s Background

- B.Tech. in Chemical Engineering, M.S. in Industrial Management & Ed.D. in Future Studies in Education
- Taught courses in Instructional Computing, Educational Planning, Teacher Education
- 30+ years in EdTech – Developing, Managing, Innovating educational uses of Information Technologies
  - 13+ years in Open Education: Open Educational Resources and OpenCourseWare
Brandon’s Background

- B.S. & M.S. in Mechanical Engineering
- Taught multimedia design and open education
- 20 years in EdTech
  - ~10 years in educational digital libraries: Collections, nationwide collaborations, quality and peer review
  - 9+ years in Open Education: Open Educational Resources and OpenCourseWare
- “Been There, Done That”
  - Multimedia courseware design and course support, course design, video production software design, digital libraries, metadata, learning objects, open educational resources/OpenCourseWare, …
Part 2: Setting the Stage
Global Events Affecting Education…

- Global financial crisis
  - Dramatic reduction in education budgets, continuing rise in costs, and rise in student loan debt

- Changing perceptions of the value of a university degree

- Rush for development in many countries
  - Scale of the numbers of students eligible for education but for whom there is no capacity
A Time of Change…

- Rise of competency-based education / prior learning assessment
- Recognition of the “half-life” of learning in many disciplines
  - Transition to continual learning in many career paths
- Rapidly changing learner attributes
- Rise of openly accessible learning materials and opportunities, at scale
  - Wikipedia, Open Educational Resources, OpenCourseWare, Creative Commons licensing
  - Khan Academy, Codecademy
IT BEGAN IN CANADA...

"IT'S DISRUPTING EVERYTHING!"

"IT'S A TSUNAMI OF POORLY UNDERSTOOD PEDAGOGY!"

DAY OF THE MOOC

STARRING: George SIEMENS – David WILEY – Dave CORMIER – Stephen DOWNES
Connectivists unleashing a force they cannot control!
Local Issues

- Reliability of electricity
- Security
Our Approach

- Our approach is technology in the service of pedagogy

- Educational technology is not new
  - Digital learning is becoming more dominant
  - Current era is based in research and development going back to the 1960s

- Online learning is not new
  - Current era begins in the mid-/late-1990s
Part 2: Today / Current State
What organizations are involved with providing / supporting infrastructure at your university?
What organizations are involved with providing / supporting infrastructure

Roles may change through the project’s lifetime

- Dept. of Computer Science, IT
- Central IT
- University administration — financial, student services
- Faculty of Education
- Center for Instructional Design
- Donors / Sponsor agencies
- HEC
- Dept. of Planning and Development
- Provincial Governments
- Statutory bodies
- Coursera, external companies

Roles may change through the project’s lifetime.
Discussion

- **Take advantage of the medium**
  - Don’t “pave the cow path”
  - Think about what’s fundamentally different about the new technologies
  - What are the appropriate combinations of offline, online

- **How can one assess learning online?**
  - Learning: Formative assessments (questions, quizzes, writing assignments) within the course materials; analyzing student activity in the course (which pages are they visiting, what problems are they having)
  - Knowledge, skills and attitude
Discussion

- **Practical**
  - Microteaching: Record the teaching, and put online for feedback

- **Trade-offs**
  - What are your priorities, how will technologies benefit you?

- **Educational Technology**
  - Moving from supporting role, to fear that it’s replacing teaching
Discussion

- **Shift to *Learning* from Teaching**
  - Understanding there are many reasons for individuals wanting to learn
  - **Answer the question:** “What combinations of in-person, online are effective in supporting learning?”
Discussion

- Challenge: Online courses will involve regular electricity, technicians, staff to run the courses, etc.

- Do you need to do it all yourself? All at once?
  - Can you offer courses developed elsewhere?
  - Can you partner with other institutions?
  - Services in the cloud?
  - “Do no harm” – It doesn’t have to be perfect, just good enough
Discussion

- Challenge: Quality in online courses
- Challenge: Student acceptance of a course
  - Understand your audience: Then test early and often (with students, the technology)
- Challenge: Multiple universities offering the same courses
  - Collaborate instead of compete, consortium?
  - Credit transfer?
  - Different courses have different values and assumptions
  - What areas are efficient to share? Content production? Assessment? Facilitation?
Discussion

- Understand **roles might change**

- Understand **your unique value**

- Understand **your audience**
  - What is your audience looking for? What are they trying to learn?

- Understand **content is not a course**
  - Course is much more than just the content

- Understand the **differences in online**
Part 3: Framing the Process
Innovation Cycle

Service → Experiment → Transition → Incubate
Discussion of Infrastructure Considerations

- Content
- Capability and Capacity
- Culture
- Connectivity
Content

- Learning Materials
  - Textbooks, record of knowledge, learning research, audio, video, articles / reading, portfolios, websites, encyclopedia articles, animations, simulations, educational games, tutorials, tests, software, assessment

- Considerations
  - Pedagogy, instructional design, production / development, interoperability / compatibility, copyright, plagiarism, ethical, production quality, relevancy / content quality, ease of use, media choice: text/video, reliability, profile of the learner, references
  - Updating, revision, sustainability (for the future)
  - Find, select content
  - Skills: Content experts, instructional design, production skills
Connectivity

Considerations

- University facilities: networks and bandwidth; hardware: storage of content, servers; reliable electricity and/or generators and UPS; student login / access control; backups and archiving; mirror sites / distribution; free from viruses, will run on multiple computers; learning management system, cross platform compatibility

- Robustness of the system

- Student facilities: network, computers, etc.

- Skills: Technicians and support staff

- Classrooms: at the university, distributed in cyber cafes, in homes
Capability and Capacity

- **Resources in terms of people and right numbers, support offices, numbers of courses**

- **Considerations**
  - Expertise: Faculty / subject matter, IT, instructional design
  - Training: Faculty, staff to develop AND implement (e.g., appropriate feedback at the right time); students to use the courses
  - Relevance?
  - To be successfully: Good governance, budget, leadership
  - Organizational units: Teaching and Learning
  - Allocation of resources: Reallocate, donor / sponsor
Culture

- Challenges to traditional views, disposition toward technology and change, build ourselves versus borrow

- Considerations
  - Openness to change, adaptability, progressive minds
  - See examples from a peer, discussion with peers, influence groups
  - Change the mindset of the government, ensure companies / industry understand it
  - Online course are reliable / quality
Discussion: Course Design Process

- **Universities have set process to design process**
  - Committee of courses, Chair of department appoints subject expertise and curriculum experts, Teams meet and suggest course, goes to dean, etc.
  - Bottom up: faculty and students identify the needs,

- **Process**
  - Themes / Big Ideas
  - Learning outcomes
  - Objectives

- **Faculty members write the scripts**

- **Experts: Subject expert and curriculum expert (pedagogy, instructional design), educational technology (from different departments)**
Discussion

- **Experiments and Impact Studies**
  - Demonstrate that outcomes are as good, if not better, can get jobs, do knowledge updates

- **Think with the end in mind**
  - Get good jobs, or good higher education
  - Replace correspondence with online programs
What do you tell your Vice Chancellor?

- Cheaper without losing value
  - Revenue generation
  - Larger audiences with proportionate increase in cost

- Experiment?
  - Identify industry/companies that will hire 50% (or some number) of the graduates – produce the quality that they’re going to hire
  - Perhaps start areas with less risk
    - For example with non-credit courses, professional development
    - Be mindful of inadvertently limiting application – “It can only be done for these specific areas”
Lunch
Supply-Side Changes

- **Tools**
  - Open-source and community-source tools, free to use
  - Online communications: chatting, Instant Messaging, Facebook, Twitter, etc.
  - Price of technology decreasing while the capabilities are increasing (tablets, computers, mobile phones)
  - Technology is more accessible as well

- More educators talking about technology, and technology in education—conversation has changed/is changing
Changes...

- **Shift from scarcity to abundance**
  - There’s lots of content available
  - Networks/access means we’re not limited to physical classrooms
  - Institutions are predicated on the notion of scarcity
  - Example: Video production

- **Economic Needs -> Living and Learning at the same time**
  - Demand side: Individuals aren’t able to take full degree programs, or want to take a course while riding the bus

- **4 year degrees? Shorter? What expectations do we have, should we have?**
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Group #4: B.Ed. Online Program

- Consortium: Cooperation University of Singh, Karachi University, International Islamabad
  - Change mindset of community to bridge the gaps from B.Ed. And Online

- Team: 10 people with 6 faculty member, 2 Internet technicians, production manager, student advisor/student service

- Online production of online B.Ed. system: Internet facility, content, student services, human resource development

- B.Ed. Online registration website, page with enrollment, and then the student can download the course (build on existing OER), videos, assessment, upload assignments (can choose with whom to share his/her materials)

- Question: Estimate the resources required?
Group #2: B.Ed. Online Program

- **Proposal: To launch one course**

- **Common Concerns**
  - Security (esp. at Women’s universities), responsibility to the community to share courses (via online), can contribute to internationalization of online education

- **Careful Planning**
  - Infrastructure: Number of concurrent users
  - Human resources: Content developers, instructional designer, monitoring and evaluation team, experts to deliver courses, student services and student support. Orient students before they use it.
  - Budget; marketing the program
  - Training: For faculty and students
  - Benefits: Cost: Scalability, analytics, reusability of the modules, cater to different individuals’ learning styles
Group #1: B.Ed. Online Program

- Why go online?
  - Reach rural areas, enable participation of women students, cost effectiveness, no seat capacity issues, anyone of any age can attend programs, it’s the modern style of education

- Development process
  - Management needs to support the initiative (“attitude”)

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Group #3: B.Ed. Online Program Proposal

- **Planning**
  - Produce quality teacher thru online program for quality education
  - Target: Pre-service teachers for B.Ed. 4 year program
  - Follow HEC and Provincial HEC guidelines
  - Present the proposal to curriculum committees, NSPT National Professional Standards for Teachers, and accredited through National board

- **Content Development**
  - Subject experts: Training to develop online content
  - curriculum, and technology experts
  - Production facilities, supporting software, campus management (enroll students, lifecycle)
Group #3: B.Ed. Online Program Proposal

- **Infrastructure and Human Resources**
  - Staffing
  - (Everything mentioned earlier), DVD duplication/replication, Studio, graphics and animation, editing
  - Business continuity plan—What happens if issues affect the course

- **Delivery**
  - Websites, collaboration software
  - Advertising, marketing
  - Examination systems (question bank, multiple choice, etc.)
  - Student services

- **Budgeting**
Questions

- Develop higher order learning
  - And the assessments need to match those learning higher order skills

- What are the differences between Virtual University Courses and online courses
  - Bilingual courses
  - Entirely online

- Don’t generalize as a question of “Quality”, but rather the set of questions that should be asked
  - Efficient (learners’ time and teacher’s time)
  - For a course learning outcomes are met
Take Aways

- Planning of online course is important
- General awareness
- It’s an important thing to be doing right now
- Faculty members need to build support with their peers, which will build support at the institution over time
- Suggestion to participants: Think of this exercise in a much more specific way. Think of a real proposal.
Next Steps

- VU Offers to become a central repository through their OCW site for online courses from institutions
  - A national repository

- Online seminar to continue the conversation

- Vice Chancellor’s Forum
  - Be collaborators with each other at events like this
Wrap-Up

- **Moodle Hosting for 1-Year:**
  - Service Provider: [http://viper.pk](http://viper.pk)
  - Questions? Contact M. Aslam Sharif, [gmt@beaconhouse.edu.pk](mailto:gmt@beaconhouse.edu.pk)

- **Virtual University:**
  - Javed Yunis, [mit@vu.edu.pk](mailto:mit@vu.edu.pk)

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