Teaching and Learning with Mobile Devices in Nursing Education
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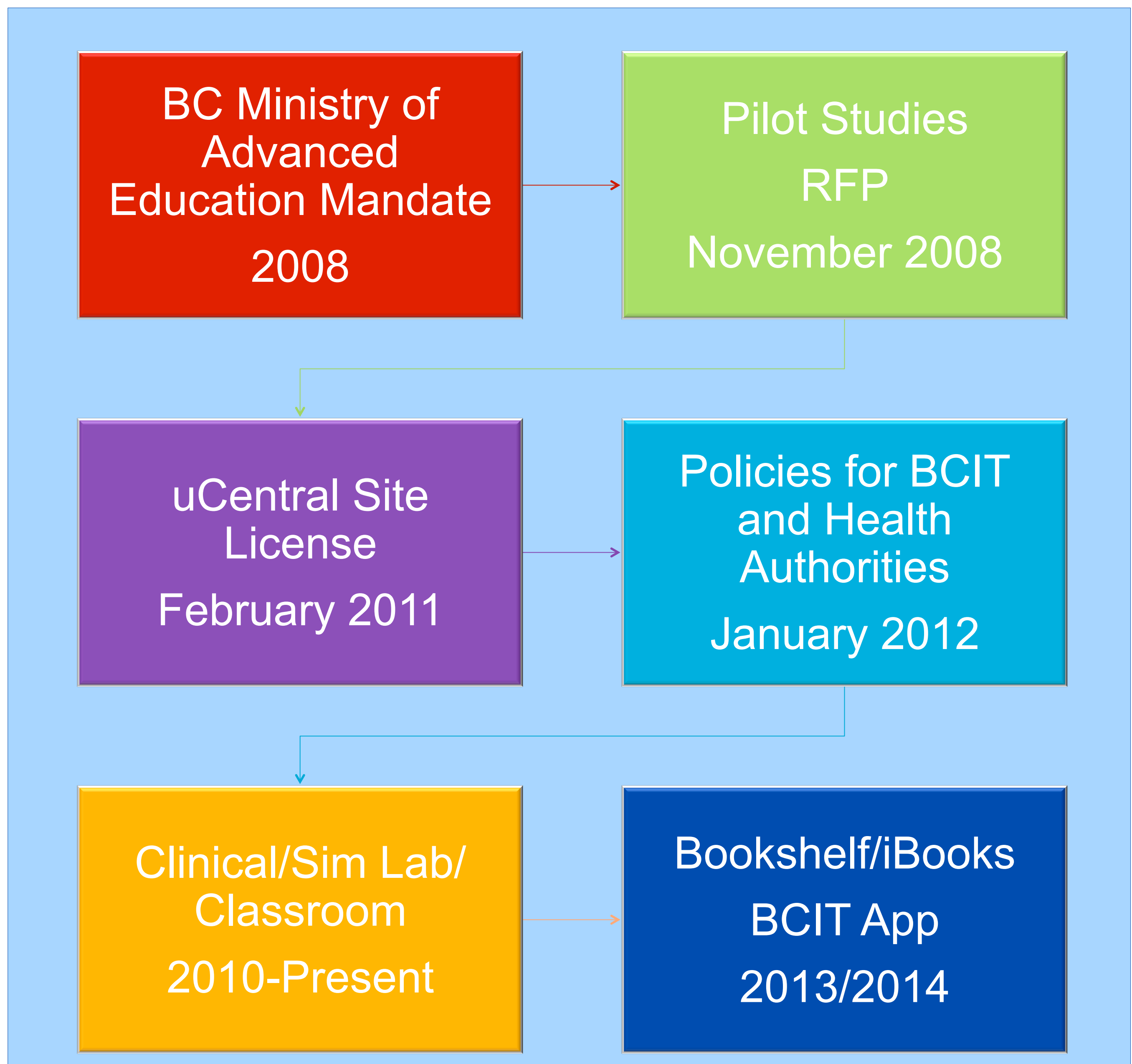### British Columbia Institute of Technology, Nursing Program, Burnaby, BC

BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

Introduction

• Two-thirds of questions that arise in clinical practice are never answered, and medical errors in the US cost $19.5 billion during 2008[3].

• Complexity and acuity of patient health issues is intensifying[4].

• Nurses face the challenge of effectively managing an increasing amount of clinical information while also managing technological advances[4,5,6].

• Retrieving information off the internet has been likened to drinking water from a fire hydrant[1].

• Students typically overwhelmed by the amount of 'hits' retrieved with healthcare information searches through major search engines[2.].

• Support nursing students' decision making and patient care planning with relevant and evidence-based resources at the point of care[4,5]

• Unbound Medicine's uCentral offered at BCIT to provide students with peer-reviewed, up-to-date, and succinct healthcare information .

•• BCIT students and faculty using these resources via mobile device
  • at the point of care
  • in simulation labs
  • in classroom/online learning environments

to support and enhance student decision-making and care-planning

Process

BC Ministry of Advanced Education Mandate 2008	**Pilot Studies RFP** November 2008
uCentral Site License February 2011	**Policies for BCIT and Health Authorities** January 2012
Clinical/Sim Lab/ Classroom 2010-Present	**Bookshelf/iBooks BCIT App** 2013/2014

Results

• Approximately 85% of BCIT nursing students use mobile devices to access information resources in the classroom and clinical settings.

• BCIT and Health Authority Social Media Technology Policies are in place for mobile device and social media use

• Surveys of faculty and students showed support for continued use of Unbound Medicine's uCentral application

• Approximately 75% of BCIT nursing faculty use mobile devices to support teaching.

• Research studies expanded to other nursing schools in Canada.

• Mini portable projectors being explored at BCIT as a way to share information on a smartphone in groups.
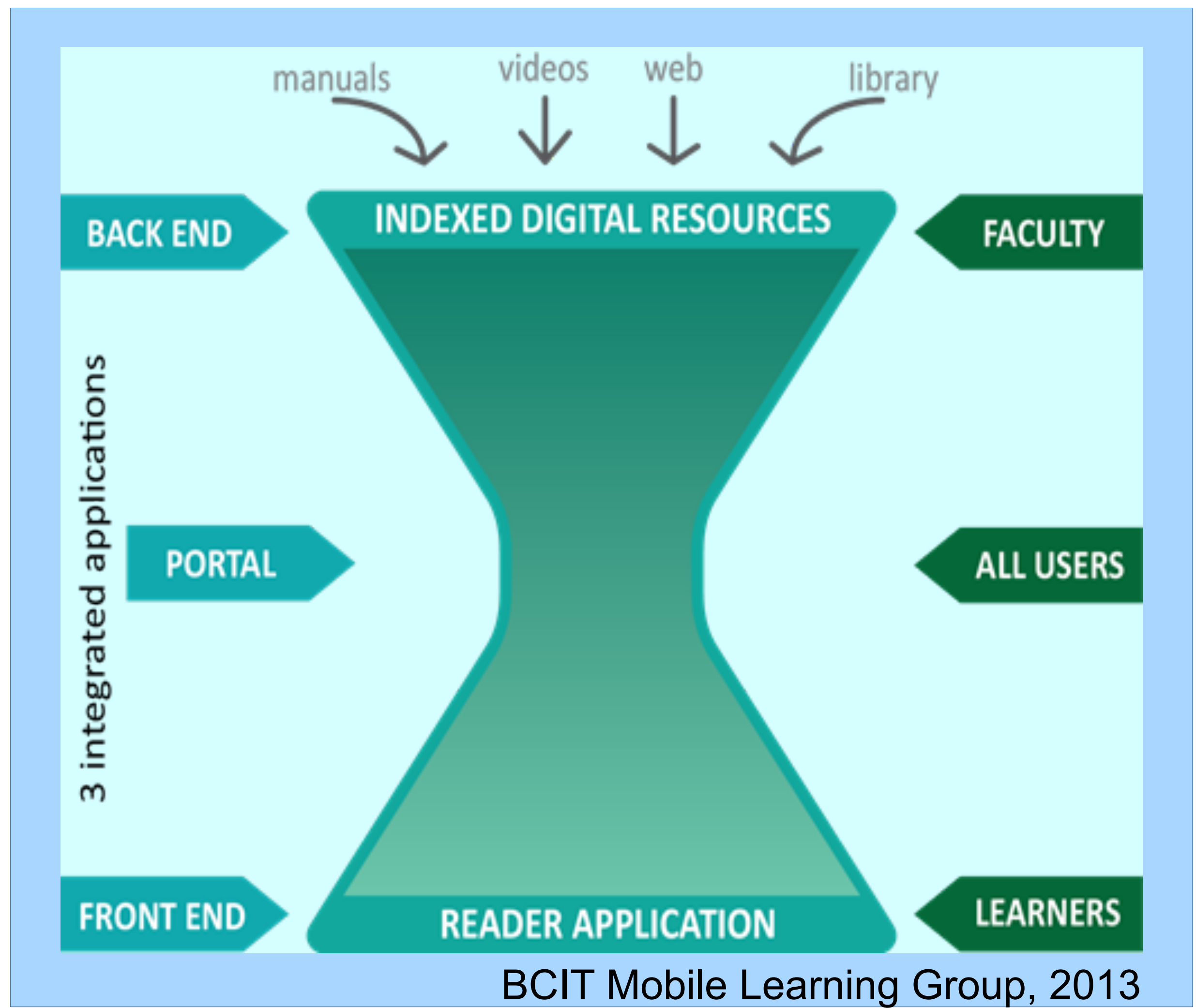
BCIT Surveys

Benefits	Challenges
• No heavy outdated textbooks	• Perception of staff
• No need to access ward computer	• Perceived perception of patients
• Real time efficient access to credible information	• Infection control
• Patient teaching tools	• Digital Divide
• Translation tools	• Confidentiality
• Practice based on evidence	• Effect on critical thinking
• Improved student confidence	• Screen size for sharing
• Less student anxiety	

Complex Systems Theory

• Complex Systems Theory used as a framework for understanding the behavior of healthcare processes[7]

• Complexity theory as a key reason for the significant unpredictability and variation in clinical outcomes across healthcare organizations[8,9,10].

• Nursing students require support and guidance as they navigate the Complex System of healthcare.

• Provide students with guidelines and resources that are consistent with their nursing school and any clinical site.

• Potential to help streamline and standardize care, decrease medical errors and improve the quality of care delivered.

BCIT Mobile Device Resource App

BCIT Mobile Learning Group, 2013

Summary

• Collaboration with other nursing schools to explore best practices and determine strategies to support mobile teaching and learning.

• Potential to improve patient safety and decrease student medical errors is being explored.

• Research study commenced to explore impact of social media, social networks, and e-portfolios on nursing education and practice.

• Nursing programs to develop a mobile application for policies, procedures and other relevant resources.

• Evaluative and research studies continue to explore the effectiveness of mobile devices.

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