Scaffolding A Program: Building Knowledge & Skills One Course At A Time

Presented by: Margaret Czart, DrPH
• Higher Education programs are required to maintain institutional and potential program accreditation standards.

• In addition to the institutional accreditation programs are preparing for initial and/or maintaining program accreditation standards.

• Many STEM fields require programs to convert to competency-based education.

• The preparation typically begins with scaffolding which includes summative assessment. Scaffolding assist in determining to knowledge and skills gained in each individual course.
Goals & Outcome of the Presentation

- The objectives and goals of this presentation are:
  1) describe and explain the benefits of scaffolding.
  2) explain the various methodologies of scaffolding a program.
  3) present recommendation on addressing extensive course overlaps and gaps.
  4) strategies to maintain scaffolding within a program.

- As an outcome of the session program faculty and program directors will gain insight on how to assess their programs for improved student success and retention while addressing program and institutional standards.
What Makes a Program?

- Prerequisite Courses
  - Knowledge and skills required prior to being admitted or prior to beginning core courses.

- Required Core Courses
  - Knowledge and skills gained during the core courses of a program.

- Electives
  - Knowledge and skills gained from courses of a student’s interest.

- Elective Categories
  - Schools may choose to allow students to select electives based on:
    - Electives of a student’s choice.
    - Recommended Electives for Non-Official Tracks/Concentrations
    - Track/Concentration Electives
What is Scaffolding in Education?

• There are 3 main purposes for Scaffolding in Education:
  • “Scaffolding needs to support current performance & lead to the ability to perform the target skill independently in the future”.
  
  • “Scaffolding is used while students engage with an authentic/ill-structured problem”.
  
  • “Scaffolding needs to (a) build off of what students already know & (b) be tied to ongoing assessment of students abilities.

Blooms Taxonomy vs. Miller’s Pyramid

Blooms Taxonomy – Typically Non Competency Based

Miller’s Pyramid- Typically for Competency Based

Source: https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/

What information is needed to Scaffold a Program?

• Non- Accredited Program
  • Institutional Mission
  • Program Mission and Goals
  • Program Requirements (Prerequisite & Required Courses)
  • Official Course Descriptions
  • Course Maps

• Accredited Program
  • Institutional Mission
  • Accreditation Standards
  • Program Mission and Goals
  • Program Requirements (Prerequisite & Required Courses)
  • Official Course Descriptions
  • Course Maps
Methods to Scaffold a Program

- There is no one method to scaffolding a Program.

- Scaffolding of a Program uses various methods depending on the following:
  - New and Current Programs
  - Program Specific Accreditation.

- New and Current Programs
  - New Programs may scaffold based on course number and/or content
  - Current Programs may require scaffolding by content due to course number availability
Methods to Scaffold a Program cont.

• New and Current Programs
  • New Programs may scaffold based on course number and/or content
    • New Programs may hold the benefit of assigning course numbers and names based on the difficulty of course content
      • Prerequisites, Required Courses and Electives

• Current Programs may require scaffolding by content due to:
  • Course number availability
  • Development of New courses as needed over the years.
  • Archiving of courses no longer needed due to discipline changes.
Methods to Scaffold a Program cont.

• Program Specific Accreditation
  • Accreditation criteria may require programs to meet:

  • Disciple Competencies
    • Typically in disciplines with traditionally using competency based education
    • Competencies may be designed using Bloom’s Taxonomy or Miller’s Pyramid.

  • Domains of Learning
    • Typically in disciplines currently switching to competency based education
    • Disciplines currently in progress to developing competencies
      • Programs are required to develop program level competencies
      • Course may be required to develop course level competencies.
      • Competencies may be designed using Bloom’s Taxonomy or Miller’s Pyramid.
Example: UIC MS Health Informatics

• UIC MSHI Program began in 1990s with 4 technology courses with funding from Alfred P. Sloan Foundation.
  • BHIS 510 Health Care Information Systems
  • BHIS 515 Management of Healthcare Communication
  • BHIS 520 Health Information Systems Analysis & Design
  • BHIS 525 Social and Organizational Issues in Health Informatics

• Current Program
  • Required Courses: 10
  • Electives: 15 +
  • Concentrations: 1 (Data Science)
  • Future Concentrations: Consumer/Mobile Health & Leadership
Pre-Scaffolding of MSHI Technology Courses

• Currently, students may take one of the following:
  • BHIS 437 Health Care Data
    • Health Technology Implementation and Data Standards

OR

• BHIS 510 Health Care Information Systems
  • EHRs and other integrated system for Coordinated Care using standardized data for universal understanding between health professional.

Next

• BHIS 515 Management of Healthcare Communication
• BHIS 520 Health Information Systems Analysis & Design
• BHIS 525 Social and Organizational Issues in Health Informatics
Scaffolding by Course Number

- **BHIS 437**
  - Health IT Integration & Data Standards

- **BHIS 510**
  - EHRs & Other Intergraded Systems for Coordination Care

- **BHIS 515**
  - Health IT Networking Communication

- **BHIS 520**
  - Health IT System Analysis and Design

- **BHIS 525**
  - Examines the impact of information systems on the health care organization
Scaffolding by AMIA Field Domains

• Foundational Knowledge:
  • May be prerequisite courses
  • Early courses in the program
    • 400 level vs. 500 level
  • May be required courses
    • Typically used with tracks/concentrations

• Foundational Knowledge
  • F1 Health – BHIS 510
  • F2 Information System Technology - BHIS 437
  • F3 Social Behavior Sciences

Graphic: Christina Lorenzo, MS in Biomedical Visualization, 2017, Department of Biomedical and Health Information Sciences, University of Illinois at Chicago
Scaffolding by AMIA Field Domains for Competency

- **F4: Health Information Science and Technology**
  - BHIS 437, 510, 515, BHIS 520
- **F5 Human Factors**
  - BHIS 510
- **F6 Social Behavioral Aspect of Health**
  - BHIS 525
- **F7 Social Behavioral Science & Technology Applied to Health**
  - BHIS 437, 510, 515, BHIS 520
- **F8 Professionalism**
  - BHIS 510
- **F9 Interprofessional Collaborative Practice**
  - BHIS 510
- **F10 Leadership**

**Competency = Knowledge, Skills and Attitude for Track and Concentration Programs**

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Scaffolding by Course Number vs. Domain/Standards

- There is no one way to scaffold a program
- Using course numbers or field domains is acceptable
- Things to consider
  - Program Mission
  - Program Outcomes
  - Where is the program now?
  - Where will the program be 20 years from now?
QUESTIONS

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