Mapping the Future of HIM Education

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When a profession changes, its supporting education system must change with it. Faced with the fact that the HIM industry was evolving faster than its educational training programs, the AHIMA Foundation's Council for Excellence in Education (CEE) and its partners in education took on the task of rebuilding a new Curriculum Map that educators could use to link cutting edge HIM skills with updated educational programs.

Defining School-based Curriculum

Curriculum is taught in schools, and consists of a set of subjects, content, concepts, program of study, materials, sequence of courses, or set of performance objectives based on a global body of knowledge. It is the subject content offered by an academic program that allows students at the end of their program to come away with a set of entry-level competencies or student learning outcomes.

A student learning outcome is defined by three characteristics:[1]

- Behavior: what the learner will be able to do
- Condition: how the learner will do it
- Measurable: how well the learner is able to do the task

Curricular considerations-which were previously referred to as knowledge clusters or curricular components-is the content related to the desired student outcome. To measure how well a student is expected to master a concept, AHIMA relies on Bloom's Taxonomy levels.[2] Bloom's Taxonomy is a classification system that divides the way people learn into three domains:

- Cognitive (intellectual outcomes, mental skills)
- Affective (growth in feelings or emotional areas)
- Psychomotor (manual or physical skills)

Cognitive learning is further divided into categories that are arranged progressively from the lowest level of thinking, known as "simple recall," to the highest level of thinking, known as "creating new ideas." Student learning outcomes are the entry-level competencies that are expected of graduates at each academic level of health information management (HIM) education. The student learning outcome is assigned a Bloom's Taxonomy level, which is determined by the verb used in the student learning outcome statement. For example, the outcome "define secondary data sources and use" is assigned Bloom's Taxonomy level 1 because the student simply must recall the facts. The outcome "evaluate the accuracy of diagnostic/procedural groupings," however, is level 5 because the student must present and defend opinions by making judgments about information.

Laying Out the Curriculum Map

Each academic level of HIM instruction is guided by the AHIMA Curriculum Competencies and Knowledge Clusters, a national model curriculum developed by AHIMA. This model is also known simply as the "Curriculum Map." The curriculum maps serve to model the required body of knowledge that students must assimilate during their formal HIM education.

The current curriculum map, as detailed in Figure 1, is divided into three columns with an associated Bloom's Taxonomy level assigned to each curricular component. The curriculum workgroup worked to link a Bloom's Taxonomy level with each learning outcome rather than the curricular component itself, as the learning outcomes represent the measurable element of the component.

Figure 1: Current Curriculum Map/New Curriculum Map Drafts Available for Review
Current Curriculum Map

The curriculum map is divided into three columns, with an associated Bloom's Taxonomy level assigned to each curricular component. The third column is open for the convenience of educators, allowing them to add courses that cover the competencies and clusters. This map functions as a tool for educators to ensure they are covering all the necessary curricular content in their programs.

HIM Associate Degree Entry-Level Competencies (Student Learning Outcomes)	Knowledge Clusters (Curricular Components)	Notes
Domain: Health Data Management I.A. Subdomain: Health Data Structure, Content, and Standards 1. Collect and maintain health data (such as data elements, data sets, and databases) 2. Conduct analysis to ensure that documentation in the health record supports the diagnosis and reflects the patient's progress, clinical findings, and discharge status 3. Apply policies and procedures to ensure the accuracy of health data 4. Verify timeliness, completeness, accuracy, and appropriateness of data and data sources for patient care, management, billing reports, registries, and/or databases	**Health Data Structure, Content, and Standards** • Data versus information (Analyzing, 4) • Health information media (such as paper, computer, web-based) (Analyzing, 4) • Structure and use of health information (individual, comparative, aggregate) (Analyzing, 4) • Health record data collection tools (forms, screens, etc.) (Analyzing, 4) • Data sources (primary/secondary) (Analyzing, 4) • Data storage and retrieval (Analyzing, 4) • Healthcare data sets (such as OASIS, HEDIS, DEEDS, UHDDS) (Understanding, 2)	

New Curriculum Map Drafts Available for Review

Visit the AHIMA Communities of Practice, http://cop.ahima.org to review complete curriculum maps in their current form during the open comment phase.

Associate Degree	Bloom's Level	Baccalaureate Degree	Bloom's Level	Graduate Degree	Bloom's Level	Curricular Considerations
I. Data Content Structure and Standards		I. Data Content Structure and Standards		I. Data Content Structure and Standards		
DEFINITION: Academic content related to diagnostic and procedural classification and terminologies; health record documentation requirements; characteristics of the healthcare system; data modeling; data accuracy and integrity; data integration and interoperability; respond to customer data needs; data management policies and procedures; information standards						
I.A Classification Systems		I.A Classification Systems		I.A Classification Systems		• Principles and applications of classification systems ○ ICD/CPT, HCPCS, SNOMED, DSM, LOINC, UMLS
1. Apply diagnosis/procedure codes according to current guidelines	3	1. Evaluate, implement, and manage electronic applications/systems for clinical classification and coding	5	1. Interpret data terminologies	2	
2. Evaluate the accuracy of diagnostic and procedural coding	5	2. Identify the functions and relationships between healthcare classification systems	3	2. Map data terminologies	2	• Taxonomies ○ Healthcare data sets (OASIS, HEDIS, UHDDS, DEEDS)
3. Apply diagnostic/procedural groupings	3					• Nomenclatures • Terminologies • Clinical vocabularies
4. Evaluate the accuracy of diagnostic/procedural groupings	5					• Encoders, computer-assisted coding

Developing Standard Terminology

In January 2013, leaders from the CEE worked collaboratively with representatives from the Commission on Certification for Health Informatics and Information Management (CCHIIM) and the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) to ensure the academic goals of AHIMA and the AHIMA Foundation are carried forward to support students, educators, and the HIM profession as a whole. In support of this goal, the group agreed to adopt standardized language that will remain consistent for three to five years in order to facilitate the alignment of domains and subdomains between the curriculum map and certifying exams across the associate, baccalaureate, and graduate levels. This effort should aid educators in better matching their exam results to the curriculum, which allows for ongoing quality improvement activities to take place.

The new domains and subdomains were first developed by the participants working to develop AHIMA's strategic plan. The workgroup determined which existing terms were still relevant, removed terms that were no longer of primary importance, and then added terms that reflect the future of the HIM profession. The work of this group was further refined by input from CAHIIM, CCHIIM, and the CEE. The collaboratively developed and approved set of domains and subdomains was used as the baseline for the development of the curriculum maps. As part of the process, the curriculum retreat team-members of the CEE, curriculum work group, and Graduate Resource Alliance-developed a glossary of academic terms and definitions of each domain to ensure consistent domain interpretation within the academic community.

Figure 2: Recall, Application, and Analysis Scoring

This graphic illustrates recall, application, and analysis scoring for domains and subdomains across all educational levels.

Entry Level Competency Student Learning Outcomes	Associate	Baccalaureate	Graduate
Data Content Structure and Standards			
Classification Systems	3	2	1
Health Record Content and Documentation	3	2	1
Data Governance	1	2	3
Data Management and Secondary Data Sources	2	3	3
Information Protection: Access Disclosure Archival Privacy and Security			
Health Law	2	3	3
Data Privacy Confidentiality and Security	2	3	3
Release of Information	3	2	1

Standardization Methodology

The methodology for building the curriculum maps began with curriculum retreat team members breaking into three groups to begin scoring the subdomains. The scores for all groups were quantified by taking the average of the scores for all three groups.

A broad scoring scale was used to determine the level of educational learning. The scoring system used for each of the subdomains across all educational levels was as follows:

- 1 = Recall
- 2 = Application
- 3 = Analysis

The scores were finalized across the three educational levels and were marked on the subdomain map so that members could refer back to this scoring when building the learning outcomes and Bloom's Taxonomy levels.

Learning Outcomes

Following the subdomain scoring process, groups were formed based on educational level (associate, baccalaureate, and graduate) to reassign current learning outcomes under the new subdomains, as well as determine where there were gaps in learning outcomes under the new subdomains. Each learning outcome was examined and, using the Bloom's Taxonomy levels, a score was provided for each learning outcome that was associated with the new subdomain. This was done for every learning outcome across all educational levels.

After the current student learning outcomes were mapped to the new standard terminology and subdomain with Bloom's Taxonomy levels, all results were reported back and the recorders of each group met to finalize the learning outcomes and evaluate gaps. The full group met to discuss the learning outcomes that were established. The discussion covered such questions as:

- Which learning outcomes do we keep, remove, or change?
- Does each student learning outcome need curriculum considerations?
- Does each student learning outcome need examples?

Assigning a Curriculum Consideration

Post-it notes of each of the old knowledge clusters (curricular considerations) were made and each note was used to determine at what level and what learning outcome it should be placed, if at all. This was performed at the associate and baccalaureate levels. This process could not be performed at the graduate level as no curricular considerations had previously been developed. Each member then met back in their educational level groups to categorize similar curricular considerations together, removing and changing them as needed. Members of the graduate level group wrote each of their new curricular considerations.

The new curriculum map (see Figure 2) demonstrates the efforts of the curriculum retreat team and the results generated through this process. The map lists the Bloom's Taxonomy level with the student learning outcomes and identifies the curricular considerations needed to teach the competency. The new graduate curriculum map incorporates curriculum that includes both master's and doctoral levels of education. Most doctoral levels of education include foundation courses that are significantly similar to those at the master's level. Therefore, domains, subdomains, learning outcomes, and curricular considerations can be similar for both levels, with the major difference for the doctorate falling into the dissertation research process.

Since the dissertation content will vary for each individual pursuing their PhD, and includes close mentoring and advising between the professor and student, those specifics were not included in the curriculum maps for doctoral levels of education.

The draft curriculum maps are currently posted on the AHIMA, State Leaders, and Assembly on Education Communities of Practice (CoP) to gather input from key stakeholders including educators, CEE, CCHIIM, and CAHIIM representatives. Members can access the CoP at http://cop.ahima.org and then log in with their unique username and password. The draft curriculum maps were presented at the 2013 Assembly on Education Symposium in July, and comments will be accepted through August 30, 2013. A comment form is also posted on the various CoPs. The curricula will be revised based on comments and released to CAHIIM by mid-December 2013. CAHIIM will be responsible for determining the implementation timeline for program accreditation purposes.

Building a curriculum for the future of HIM is not an easy task. The development of a structured methodology by affiliate and volunteer groups to enable evaluation across all educational levels is a vital step to achieving this vision.

Figure 3: Bloom's Taxonomy Example

This figure illustrates an example of the Bloom's Taxonomy scale assigned for a learning outcome across all educational levels.

Standard Terminology/Subdomain	Associate-Learning Outcome (LO)-Bloom's	Baccalaureate-Learning Outcome (LO)-Bloom's	Graduate-Learning Outcome (LO)-Bloom's
3.E Research Methods	Explain common research methodologies and why they are used in healthcare (Bloom's Level = 2)	Apply principles of research and clinical literature evaluation to improve outcomes (Bloom's Level=3)	Conduct evidence-based research (Bloom's Level=6)

Contributor Acknowledgements

Members of the curriculum retreat team represented educators from all levels of HIM education and current HIM workforce members. The efforts of this team led to the revised curriculum now being shared for comment and implementation.

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Notes

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2. Clark, D.R. "Bloom's Taxonomy of Learning Domains." 2013. http://www.nwlink.com/~donclark/hrd/bloom.html.

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