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Core Aspects of Curriculum Development: A Literature Review and Development of Program Handbook for Health Informatics and Information Management

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Core Aspects of Curriculum Development: A Literature Review

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Abstract

The purpose of this review [was](#) to determine the basic principles of curriculum design and [to understand](#) how they are used to develop a competent curriculum handbook. The findings were used to develop a handbook for the Health Informatics and Information Management major at Western Michigan University. This literature review focuses on a variety of web pages, articles and books that analyzed the topics of curriculum design and curriculum handbook development. A review of the Bronson School of Nursing Handbook and the Temple University - Health Information Management Department B.S. in Health Information Management (HiM) Student Handbook was also conducted. This secondary review was carried out in order to determine if the basic principles highlighted in these two handbooks were consistent with the key curricular components outlined in the study.

[Through](#) this investigation, key components of curricular development [were found](#) to be: philosophy, goals and objectives, organization, assessment, evaluation, and integration of these core themes into guidebooks. [It was](#) determined that both the Bronson School of Nursing and the Temple University Handbook included all of these components. [As a result](#) of this [review](#), [an](#) effective handbook [draft](#) for the Health Informatics and Information Management [major](#) at Western Michigan University [was developed](#).

Core Aspects of Curriculum Development: A Literature Review

Introduction

A curriculum is the core of a student's educational experience. It is the primary means by which student [learning is](#) shaped by the faculty and staff of a particular academic institution (Gardiner, 2000). A curriculum can be defined by the set of courses, course work, and content offered within a particular educational scenario (Curriculum Development Principles, n.d.). Ultimately, curriculums are needed because all programs and schools need to outline what their programs intend to achieve, how students will reach the determined goals, and the processes that will be used to ensure that goals have been met (Ryerson University, 2014). The curriculum development process is fluid and can be performed in many ways. However, because the curriculum is a key element in the educational process there is a variety of key principles used as the foundation for most curriculum designs. The principles that play into the development process are used to ensure that all curricula are consistent and will function as a whole, in order to be as effective as possible (Gardiner, 2000; Rink, 2009).

A curriculum's design is very broad and has an effect on essentially everyone involved in the teaching and learning experience. Therefore, the process of curriculum design incorporates a range of educational activities and experiences. The central focus of a curriculum is the student. An effective curriculum consists of the sum of learned material and applied performance that the student experiences throughout a program. General and technical studies should be intertwined in order to provide students with the opportunity to grow both professionally and personally. A curriculum should be designed to best meet the needs of students with various learning styles [while at the same time](#) [being](#) responsive to the needs of the community. In the college setting, most students involved in a particular program are working towards the goal of obtaining a

career in a specified field. Therefore, the focus of the program must be one that is relevant to the ultimate career goals (Roberts, 2007). As decisions are being made regarding a curriculum, focus should be aimed towards helping students understand content, but also to help them become great performers in their future professions (Tallman, 1992). Curriculum content should be determined by considering the future results of the program (Roberts, 2007). Considering the needs of the future allows developers to predict that the students enrolled will become worthy professionals. It is the responsibility of individual schools to design programs that are intended to meet similar outcomes for students going into the same fields of work. Therefore, national and state standards can provide developers with a base that describes desired outcomes of students. However, the standards do not provide a pathway for program developers to help students meet the intended goals (Rink, 2009). If possible, the curriculum development process should begin with the national/state standards and extend from that point (Carson, n.d.). Using a basic set of principles to develop all curricula can serve as a foundation for producing professional students who are ready to integrate into a work force with others from different programs with similar intentions.

Other than the curriculum itself, it is important to have a curriculum guide that accompanies university programs. Creating a curriculum guide is an organized approach to analyzing a program. It allows the program to be viewed and evaluated as a whole by instructors, current and future students, prospective employers, regulatory groups, and accrediting bodies (Ryerson University, 2014). Curriculum handbook development has the potential to provide an easy means of relaying important information about a program to students and others influenced by the curriculum design (Vogel, 2000). The purpose of this review is to outline the basic principles of curriculum design and how they are used to develop a competent

curriculum handbook. It is important that a clear and concise handbook accompanies a curriculum's implementation. The review of materials aided the development of a curriculum guide for [the](#) Health Informatics and Information Technology (HiIM) [major](#) at Western Michigan University.

Methods

This literature review was completed using a variety of web pages, articles, and books focused on the topics of curriculum design and curriculum handbook development. The sources were found using Internet searches, Google.com and Google.com/scholar, focusing on the key words, “curriculum development,” “curriculum principles “and,” effective handbook writing.” The sources were reviewed to determine common themes and principles regarding curriculum development and how curriculum guides should be written for easy interpretation. In order to ensure that the data were collected from a broad variety of sources, the curriculum design processes considered were from academic programs at all different educational levels. A review of the Bronson School of Nursing Handbook and the Temple University – Health Information Management Department B.S. in HiM [Student Handbook](#) was conducted in order to determine if the basic principles of curriculum development highlighted in the handbooks, were consistent with the key curricular components outlined by the study. This secondary review was completed in order to ensure that the WMU [HiIM Student Handbook](#) is as effective as possible. The integration of key principles of curriculum development (as outlined in the literature review), the review of the Bronson School of Nursing Handbook and the review of the Temple University HiIM Student Handbook provided the basis for the formation of the HiIM program handbook at Western Michigan University.

Literature Review

Through an analysis of various sources, the basics of curriculum development and handbook writing were considered. Throughout a comprehensive review of literature, various key principles of curriculum design were consistent among the sources. This literature review considers the key principles of curriculum design by [discussion of](#) the following core themes:

1. Philosophy as a foundation for curriculum development
2. Curriculum goals and objectives
3. Importance of organization in curriculum development
4. Integration of assessment into curriculum design
5. Evaluation of implemented curricula
6. Various principles of curriculum design and their incorporation to program guidebooks

Philosophy as a foundation for curriculum development

A statement of philosophy is the purpose of a program and the rationale for including the particular program into a school's curriculum. A philosophy statement should describe the approach to the content of a program and how the content will be organized to accomplish the purposes (Rink, 2009). "A philosophy should be more than what we think should be happening and more what the curriculum is striving to reflect" (A Guide to Curriculum Development, 2006, [pg. 5](#)). A philosophy statement should provide a clear and compelling justification for a program. It should also be useful and written in language that is clear enough to be understood by faculty and students, as well as non-educators (A Guide to Curriculum Development, 2006). A curriculum's philosophy statement functions as a foundation for the curriculum as a whole (Gardiner, 2000). A philosophy statement should describe how a program supports each individual's learning style, growth, development, and interests. The information included in a philosophy should provide knowledge and direction to teaching staff so they are able to implement the purpose of a curriculum into their individual courses. Staff should be able to use

the information to improve their teaching practice in ways that correlate with the underlying foundation of the curriculum. Program developers must take the time to develop the philosophies, beliefs, and theories that a program will use to guide the development of the rest of the written curriculum framework. A philosophy statement should also be tied into program policies that consider educational services and expectations of faculty (Developing a Curriculum, n.d.).

Development should begin with decisions about the overall curriculum, and subsequent levels of planning should be consistent with the original curriculum decisions (Rink, 2009). The process of developing a philosophy statement involves asking a series of questions regarding the purposes of a program, why the purposes are worth including and how the purposes can best be accomplished in the context of a particular institution. [A](#) philosophy statement should address best ways to provide students with knowledge and skills to meet the demands of a program and a perspective on how developing students will be able to accomplish a program's purpose (Rink, 2009). Forming a philosophy should consider why a particular discipline is being taught, the guiding principles of a program, the core beliefs about teaching and learning, the essential outcomes of a program, and how a program will assess both students and faculty in order to improve the faculty and the learning process.

Components of an effective philosophy [include](#) accuracy, linkages, breadth/depth, and usefulness. In terms of accuracy, a philosophy needs to represent ideas that can be supported. It should also consider the specific discipline of a program. A philosophy should portray linkages that are consistent with the philosophy of the host university, and it should also provide a solid background for overall program goals and objectives (A Guide to Curriculum Development, 2006). [In order for it to guide the design of learning activities,](#) characteristics of a philosophy

statement must be practical and should make the idea of development throughout the curriculum process clear (Tallman, 1992).

A philosophy should be consistent with what is known about the field of study and the general viewpoints of the school system. Information in a philosophy statement should consider the concerns and attitudes of all faculty, parents, and students involved (A Guide to Curriculum Development, 2006). A curriculum should ultimately reflect a host institution's mission and goals (Roberts, 2007). A planned curriculum should represent a value position, and the philosophy statement should outline why developers believe that a particular program is an important goal for a host university (Rink, 2009). The teachers involved in a program should be committed to each belief outlined in the philosophy. A philosophy should reflect the professional practices a program intends for its students to develop (A Guide to Curriculum Development, 2006). A philosophy should be consistent with a curriculum's framework and should address the central objectives as well as the community the program serves. [A](#) philosophy should be clearly connected to an institution's mission statement and the entire curriculum should be founded upon the beliefs and purposes outlined in the carefully developed philosophy statement (Developing a Curriculum, n.d.).

Program philosophies provide a unifying framework that gives direction to instruction throughout a program (A Guide to Curriculum Development, 2006). The purpose of a philosophy statement is to help a program move from developing the concepts of a curriculum to developing and designing specific courses. Faculty of a program should understand and be committed to the developmental approach decided by curriculum developers. Their teaching should not be focused solely on content, but should engage learners with content in ways that move students towards their goals of becoming responsible professionals (Tallman, 1992).

Understanding the background and processes of the discipline that a curriculum is developed around is crucial when shaping the students way of thinking. Historical understanding leads a developer to reflect on the purpose of the outcome, rather than focusing solely on what knowledge should come out of a program (Carson, n.d.).

Curriculum Goals and Objectives

Stated goals are important in any curriculum development plan. They should be used to determine whether students are able to achieve specific objectives of a program and how the outcome of achieving the objectives are related to a particular field of work. These reasons are the most compelling for assurance that a curriculum's outcomes are stated clearly and in a precise manner (Roberts, 2007). [Clearly defined intended curricular outcomes](#) enable faculty to understand and manage teaching a curriculum (Gardiner, 2000). Some sources claim that the most fundamental issue in curriculum planning is purpose. In this situation all other aspects of development are centered on how a program defines its specific purpose. Faculty members describe what they want learners to take out of their individual courses through the development of objectives (Tallman, 1992). Carson argues that effective learning stems from clearly defined objectives. Defined objectives provide a basis for other aspects of a program to be aligned with the general overall purpose (Carson, n.d.).

Program goals should be concise, but also broad and overreaching. After a review of goals, [users](#) should understand the purpose of a program as well as the knowledge [and](#) skills [required upon completion](#) and values the program intends students [to embrace](#). Throughout the [individual](#) course goal and objective making process, it is important to identify [specific](#) pieces of knowledge, skills, and attitudes the program [requires](#) (Ryerson University, 2014). Much of the

work of designing a curriculum involves determining program outcomes. Aside from the curriculum development committee developing goals, national standards can be used as goals/objectives of a program if applicable. When this is not the case, it is important to consider program outcomes at different levels of specificity (Rink, 2009). Two major sources that can be helpful in determining program goals are the learners themselves and experts in the related field. Both are important because a competent curriculum should integrate the views of potential workers with established experts. In order to be useful, objectives should be written in terms of learning outcomes, processes, and products. Learning outcomes project what learners are expected to learn throughout a program, whereas products describe what main point will be taught in activities through a program, and processes are how learning activities will be carried out (Tallman, 1992).

According to Rink (2009), program purposes that are broad, overreaching statements about what a program should accomplish are equally as important as specific objectives for smaller, measurable units of instruction. However, the levels of specificity should still be consistent with each other, meaning that if there is an overall goal of the program, each objective selected for courses on a smaller scale should be consistent with that [goal](#). [V](#)arious levels of goal specificity can be problematic. For example, it is important to be specific but a developer should not end up with an endless list of goals. [N](#)ot all goals are measurable, specifically those that are broad.

Broad goals provide a framework for what is to be accomplished at each step throughout a program, leading to the ultimate outcome. However, broader goals put off decisions as to what each course should specifically focus on and how to measure the outcomes of individual courses for future planning (Rink, 2009). “A Guide to Curriculum Development” (2006), points out that

each set of program goals should be broad, extend from the philosophy of the specific discipline and play into the overall university goals. [Goals](#) should be comprehensive enough to apply to all students in a given program. They should be realistic, and each goal should play a role in the development of course objectives. [It](#) is important for developers to consider if an objective is measurable, and if so how, it will be measured. Developers should make sure that the objective is able to give the readers a clear understanding of what students should be able to do after finishing the program. An objective must be compatible with the philosophy statement. All objectives must be attainable and realistic (A Guide to Curriculum Development, 2006). Gardiner (2000), [and](#) should be specified in considerable detail, but also in clear enough language that will allow individuals to determine if the goal has been accomplished.

Incorporation of goals and objectives into curriculum development is very important. Learning goals and outcomes show how a specific program of study is designed to help students accomplish certain goals. Program goals are essential to describe what an entire program aims to accomplish. Learning outcomes can be described as another form of course objectives. Learning outcomes describe what students are expected to have learned or accomplished. As a result, learning outcomes state what students will be capable of doing after program completion (Ryerson University, 2014). Course objectives and goals can also be defined as the exit outcome of a program, or in other words, they are what students are expected to know and be able to accomplish as a result of the curriculum. Therefore, the goals and objectives should describe skills, knowledge, and dispositions [of](#) the program. The goals should take every student into consideration (Rink, 2009). Roberts (2007) [and](#) describe curriculum goals and objectives as explicit outcomes of a program. In addition, Gardiner (2000), states that the goals of a program should articulate the overall purpose of the program [i.e.](#) what graduates should know and what

attitudes they should hold after program completion. Curriculum outcomes and goals should provide direction for continuous evaluation, [eliminate](#) teaching about unrelated topics, and respond to all student needs. Program goals and objectives relate to everyone [involved in](#) the curriculum – faculty members, students, administrators, parents, trustees, etc. – It provides a means to understand the program and the [outcomes](#) it claims to produce (Gardiner, 2000).

Curriculum designers should ensure that the content of a curriculum develops mastery of the material that is necessary so students are able to carry out their future career responsibilities. In sum, curriculum goals and objectives should outline what participants are expected to learn (Tallman, 1992).

Importance of Organization in Curriculum Development

Developing a system of curriculum organization is a key step toward ensuring that teachers of a particular program practice high-quality and consistent methods. A curriculum framework plays the role of organizing how a program will implement its core concepts and how the concepts relate to specified goals (Rhode Island Department of Education, 2012). The overall sequence of a curriculum should be progressive and developmentally appropriate in order for students to reach the desired outcomes. The content of all courses should be specific and aligned with the core standards, to ensure that all aspects of the curriculum relate (Rink, 2009). It is the role of all courses and educational activities to contribute to the overall quality of a curriculum (Roberts, 2007). Organization is a key component in curriculum development that should be considered in order to determine the best means by which a design committee should go about the development process. Curriculum planning should incorporate the choice of courses and specific curriculum experiences in order to produce the intended outcomes

(goals/objectives) for all students (Gardiner, 2000). Organization should be a collaborative process by all individuals involved in curriculum planning. “Curriculum Development Principles” (n.d.), states it is important that a curriculum is developed collectively, and input is received from all parties involved in planning [\(pg. 1\)](#).

There are multiple components to a curriculum that should be incorporated (Rink, 2009). Rink (2009), claims that philosophy, specific goals, sequence of performance, content framework, and a yearly block plan should all be aspects of curriculum planning. It is important to consider these points in a specific manner. Once the goals of a program are developed, it is important to sequence events in a way that will take students to the final outcome. Describing the overall outcomes in terms of individual course content is important in order to develop a plan that will lead to the ultimate goal. Through this organization process, outcomes for each level of schooling will be determined. The process of achieving smaller scale outcomes from one year to the next will result in the achievement of the overall program goals/objectives (Rink, 2009).

Roberts (2007) [states](#) that, “the way in which courses are arranged in relation to each other make a difference between experiences that are satisfactory and those that are superior.” [\(pg. 14\)](#)

Various topics to be discussed throughout the curriculum also need to be considered in terms of how they are going to be incorporated into specific courses and pre-requisite lineups. It is suggested that developers might consider the ways co-curricular activities, such as student career and technical organizations, lend support to the rest of the curriculum (Roberts, 2007). Gardiner (2000), suggests a curriculum should follow an appropriate sequence in order to form a program in which the intended overall outcomes and those of individual courses can be reached.

[T](#)here is a plethora of ways that the organization process can occur. It is a common theme that as objectives are selected and written they should be organized in an orderly fashion.

Once it is decided what goals should be met each year, it is important to consider how long it will take to accomplish each objective, what timing is best to teach the planned units, the availability of equipment and faculty, and the relationship of each goal to other units in the curriculum (Rink, 2009). “A Guide to Curriculum Development” (2006), suggests that the order can be achieved in numerous ways, and it is specific to different programs regarding which method is most effective. Graded structures organize objectives by the level of schooling in which a student is enrolled. Unit structures group objectives by topic. Strand structuring describes the way in which all objectives are placed together in sequential order, without regard to the grade level. In addition, sequential organization outlines objectives in a chain format and allows for student progress through an outline of skills and experiences. Organization by large ideas/essential questions is a process that allows developers to mediate the curriculum on foundational understandings. According to this source, regardless of how a program is organized, decisions regarding organization should be made with the philosophy of the program in mind (Guide to Curriculum Development, 2006). Other methods of organization, outlined by Tallman (1992), are described in terms of continuity, sequence, and integration. Continuity is important for the repetition and incorporation of major concepts, as learners progress through the curriculum. Sequence comes into play when incorporating topics, so the topics are able to build effectively on each other. Lastly, integration is a curriculum’s need for relationships among major concepts within a program, so that learners are able to understand how all of the information fits together (Tallman, 1992). Regardless of the method, organization is a vital part of curriculum development.

Integration of Assessment into Curricular Design

Assessment [allows for determination of whether or not](#) students are achieving the goals of the program (Ryerson University, 2014). Gardiner (2000), states that reliable assessment should be preplanned to monitor the effectiveness of a curriculum. Assessment should outline intended student development and be able to assess the actual achievement of program goals/objectives. The work suggests that there are two varieties of curricula in a program. One variety deals with the sequence of a curriculum intended by the faculty to be studied, and the other variety specifies the sequence followed by students. It is important to assess students to help determine the degree to which they have mastered the intended educational outcomes and to determine the level at which they are achieving a programs ultimate goals. Continuous assessment is necessary to ensure that a program is running effectively (Gardiner, 2000). Carson (n.d.), states that assessments should reflect the goals of a program [and](#), if national standards are a basis for the curriculum, the assessments should be aligned with reviewing program goals.

There is a wide variety of ways in which assessment of a curriculum can be obtained. Ryerson University (2014) suggests that some sorts of evidence, reference points, or benchmarks are necessary to determine achievement level. These data can be obtained in a variety of ways such as assignments, demonstrations, projects, essays, tests, or portfolios. “A Guide to Curriculum Development” (2006) explains assessment in the same terms of quantitative data. For example, data used for assessment could include classroom tests, lessons from teachers, assignments, scores on standardized tests, textbooks currently used, student perception, and student feedback. Roberts (2007) states that it is important for each student to be knowledgeable about the occupation he/she will enter. An appropriate assessment of learning is through applied performance. According to Roberts, assessing applied performance is important because content

of a program should be closely aligned with the requirements of a particular occupation. Evaluation of student transcripts can also be an effective way of assessing a student's achievement level (Gardiner, 2000).

Evaluation of Implemented Curricula

It is essential that curriculum courses are refined over the years in order to respond to the changing societies they are a part of (Ryerson University, 2014). A program should be reviewed and, if necessary, revised on a regular basis in order to better address the changing needs of both the students and the outside world. Continuous assessment and improvement of quality are critical components throughout curriculum development (Gardiner, 2000). "A Guide to Curriculum Development" (2006) suggests that there is not a curriculum that will ever be perfect, or will ever be free of change. Curriculum developers should realize no design will be free from criticism (A Guide to Curriculum Development, 2006). The evaluation of a curriculum has to be an ongoing activity, and thus should be considered a continuous effort. Throughout the development of curricula, plans should be made in order to measure effects on students. It is after the curriculum has been implemented and the data are collected that evaluation occurs (Roberts, 2007). The purpose of evaluation is to determine the level of students' success and the impact of a program's design on student performance (Curriculum Development, Revision, and Evaluation Processes, n.d.). The purpose of gathering judgments about courses and content (through assessment) is to ultimately determine the effectiveness of a curriculum. This will allow necessary improvements to be made in courses and in future courses (Rink, 2009).

Faculty must constantly examine a curriculum to determine how effectively it is working for students. In certain situations, evaluation is an activity that is required for accreditation

procedures (Roberts, 2007). Generally, evaluation is an ongoing, cyclical procedure. The cycle begins by evaluating an existing program, designing an improved program, implementing a new program, and back to evaluating the revised program. “A Guide to Curriculum Development” (2006) explains that curriculum development ends, and also begins, with an evaluation of program effectiveness and its impact on students.

A variety of procedures may be used to evaluate a curriculum. At the course level, data can be gathered in the form of relevance of content, appropriateness of course design, effectiveness of faculty and the adequacy of the organization of activities such as course registration. Participants in a particular program could be asked to evaluate courses, by stating their opinions regarding how well course objectives are being met (Rink, 2009). An alternate suggestion is that evaluation should occur throughout the delivery of a course. The evaluation should include aspects of students’ performance, assessment and lesson analysis, and feedback from students, teachers, and parents (Curriculum Development, Revision, and Evaluation Processes, n.d.). At the program level, there is also a variety of ways to gather evaluation data. These include surveys, focused discussions and meetings. They also include the periodic gathering of information regarding perception of the program’s strengths, weaknesses, needs, the preferences of the students/faculty, and topics and objectives that do not seem to be working effectively. The data should be considered in terms of overall student performance. Data acquisition could be accomplished through the gathering of assessments, performance tasks, student work, lessons, and instructional practices of the students from instructors throughout the curriculum. It is important that a detailed review of both quantitative and qualitative information of the curriculum is considered in order to provide a solid foundation for future rounds of curriculum development and improvement (A Guide to Curriculum Development, 2006).

Various principles of curriculum design and their incorporation in program guidebooks

A curriculum guide is described as an essential tool that assists with planning and implementation of a quality program. Its purpose is to provide general instructions to [faculty](#) as they begin to develop their courses [as well as providing](#) a clear understanding of the program to students (A Guide to Curriculum Development, 2006). The final judge of a user guidebook is the person who uses it. In other words, the final judges of those who use a curriculum guidebook are those who will eventually “use” the curriculum. Although how a guidebook is formatted is important, the process of production should be considered. Vogel (2000) outlines four phases to the document formulation. The first phase involves making decisions regarding how a manual is going to be organized. It is during this time that topic headings, graphics, and formatting styles are distinguished. The second phase is termed prototyping. During this stage, mock-pages/sections of a manual are produced. Once the documents are formulated, members of the manuals target audience can read them and provide feedback. This feedback will allow writers to determine if the organization of a manual is effective and matches the needs of the potential users. The third phase is that of construction phase. This is the period in which the narrative text is written and edited. The last development phase is that of delivery. This involves the distribution and printing of the manual (Vogel, 2000).

Many factors need to be taken into consideration when developing a manual. The most important factor is determining the goal of the manual. Once the goal has been established some of the important things to consider are: what is the best organizational framework for the manual, [for](#) whom [is](#) the manual intended, what material will be covered and what is the ultimate purpose of the manual. The consideration of all of these factors is essential in providing clear information to readers (Vogel, 2000).

The manual should be broken down into sections and written in a logical order. Page format and graphics are also critical aspects of the guidebook development process (Vogel, 2000). The guidebook should establish its broad sections with a clear intent. The organization of a manual should help the reader understand a program clearly and logically. The handbook should also contain the following: a clear statement of goals and objectives, a description of course requirements, a list of instructional resources, and the description of the types of assessment used to determine mastery of a specific course of study (A Guide to Curriculum Development, 2006).

Results

After an extensive review of various sources, it is clear that philosophy, goals and objectives, organization, assessment, evaluation and an effective program guidebook serve as the keystone elements of curriculum development and implementation. A program's philosophy should serve as the foundation for curriculum design. It should outline how a curriculum plans to shape its students through the program's values, rather than describe specific program goals. All students learning styles should be taken into consideration when developing a philosophy that will serve as the framework for the rest of the design process. Developing a philosophy should be used as a base to help a program move from identifying the key outcomes to planning individual courses. A philosophy statement identifies a common base of guiding principles, core beliefs, and essential outcomes for teaching within individual classrooms. Faculty should be able to use a philosophy as a guide to incorporate the purpose of a curriculum into their individual courses of study. However, although a philosophy must be carefully thought out, it also needs to be practical and clearly stated. A well-developed philosophy statement will be

derived from the fundamental values of a program that are consistent with the needs of the host university and future employers of the program graduates.

A second important feature of a curriculum is the goals and objectives. Goals and objectives of a program are the overall learning outcomes that a curriculum aims to [achieve](#). These goals should foster within the students their ability to develop the knowledge and expertise that they need to become excellent professionals in their chosen career. Developing high-functional professionals is the ultimate purpose of a well-designed curriculum. Program goals should be stated from a general level to a very specific level. All goals and objectives should be consistent with one another, and they need to be stated in terms that are objectively measurable.

The list of intended program outcomes should not be endless. The longer the list, the higher [the](#) probability that not all goals will be achieved. There should be a concrete statement of what is to be achieved by students upon program completion. Goals and objectives do not affect students only. They are essential to all who are involved with a particular curriculum. Therefore, they should be stated in language that is clear and concise. As with philosophy, goals should consider every student. After a review of goals, readers should understand the program's purpose, as well as the key knowledge and skills the program is designed to develop. If a set of national standards is available, goals and objectives can stem from the learning outcomes that have already identified. Clearly defined goals and objectives are what allow the faculty member of a particular department to develop their individual course [objectives](#).

Organization throughout curriculum development is another key to designing an effective program. Curriculums need to have a rational sequence. This means that courses should be developed in ways that will allow students to continuously build upon their prior knowledge that has been effectively mastered. The way in which courses are planned in relation to each other

influences how well students may master the intended outcomes of a course of study. Thus, topics or units of study need to be thought of in terms of pre-requisites in order to build the most effective knowledge base in all students. There are different levels of organization throughout a curriculum. These levels proceed from the most general to very detailed. For example, a general study of the human body will eventually evolve into the specific study of various body parts and their functions. The mastery outcomes of each individual course will have an effect on the overall understanding of program content. Timing is a vital parameter of course planning. It is important to consider how long it will take to accomplish each goal, what order the planned topics should be presented and the relationship of each goal to other topics within the curriculum.

Assessment is used to assist in determining the effectiveness of a curriculum in producing the intended outcomes. Assessment can [be](#) conducted in various ways. Common assessment devices include the following: evaluation of transcripts, evaluation of applied performance, classroom test scores, assignments, projects, and standardized tests. At least some type of assessment is necessary to determine curriculum effectiveness. Assessments should align with the main goals of a program. If the goals of a program are based on national standards, the assessment methods used should reflect those standards. Assessments are a means of determining if students are meeting the intended outcomes of a program. They play an important role in curriculum evaluation.

Evaluation of curricula is critical because times are ever changing. Evaluation of curricula should serve to better prepare students for the changing needs of society. A curriculum must not be static. There should be systematic evaluation, which is used to guide needed revisions. In other words, there should always be room for change and growth. It is important that all members involved in a program of study contribute to its evaluation. This can be

accomplished through a variety of ways such as collecting data from faculty, having students complete course evaluations, conducting surveys and holding focus groups and other types of meetings as needed. Identifying program strengths and weaknesses is part of the ongoing cycle of evaluation. A program begins with implementation. Evaluation of the program then occurs. Evaluation can occur at the program level, department level, faculty level, student level, and from outside sources. Once weaknesses are determined, an improved solution is designed. The [revised](#) program is then implemented and then evaluation of that program should occur after a reasonable period of time.

Effective guidebooks are important components that must accompany the implementation of curricula. The first step in creating an effective handbook is determining how the sections should be organized. Once the sections are organized, writing should be developed and provided to the target audience so that input about its effectiveness can be gathered. After this process, the final draft of the guide can be modified, edited, and distributed. In regards to what sections should be included in the guidebook the following are key elements: philosophy, goals and objectives, learning experiences, resources, and means of assessment are common divisions among various programs. Finally, a curriculum guide is essential to provide clear instructions to [faculty](#) for the development of their courses. As well, it is a vital tool that allows students to gain a clear understanding of a program.

Discussion

Most scholars in the area of curriculum development have identified that philosophy, goals and objectives, organization, assessment, evaluation, and an effective curriculum handbook are the most important aspects of program implementation. This provides a solid basis for the

formation of the Health Informatics and Information Management handbook at Western Michigan University. As determined by the [literature review](#), it is important that the philosophy of [the HiiM major](#) is explicitly stated in the handbook. The statement will provide students with an understanding of the values, beliefs, and learning styles the faculty [teaching the courses](#) possess. After a review of the Bronson School of Nursing Handbook and the Temple University HiM Student Handbook, it is clear that a philosophy statement is needed in the WMU-HiiM handbook. The philosophy will be centered around the values of the [faculty](#) and will provide the framework for implementation of realistic goals and objectives.

The WMU-HiiM handbook will also contain a clear, concise list of goals and objectives. The Bronson School of Nursing and Temple University HiM Student Handbooks both listed their objectives in individual sections of the handbooks. The goals and objectives were listed by number or bullet points and were easy for the reader to point out and read. Determination of the goals and objectives for WMU-HiiM will consider all student needs and the demands of the occupations that students will enter upon graduation. As outlined by this [literature review](#), achievement of overall goals will be met by completing a series of courses that are aligned precisely, to provide students with a continually developing knowledge base.

Organization is crucial in both curriculum development and handbook development. Both the Bronson School of Nursing Handbook and the Temple University HiM Student Handbook contained sections that outlined individual courses, pre-requisites, and a sample yearly-block plan of how the courses are recommended to be taken. This layout will be implemented in the WMU – HiiM handbook because it provides a clear layout for students to understand what is required of them. The Bronson School of Nursing Handbook also contained a complete list of course descriptions, which can be helpful for students to recognize the goals

and outcomes of individual courses and to give them a better understanding of how their education will progress throughout the program. The WMU-HiiM handbook will include a list of complete course descriptions in order to better inform its students and faculty of what is expected on a smaller scale. In order to ensure that the curriculum is effective for students, assessments must be part of the curriculum in order to guide student development towards the ultimate end goals.

Aspects of assessment were also present in both the Bronson School of Nursing Handbook and the Temple University HiM Student Handbook, sections regarding exams and grading were included. This provides faculty and students with a means to understand how their progress will be tracked. Without an assessment plan, there would be limited ways to determine if students were on the track to meeting the overall goals and objectives. Another aspect of both handbooks that falls under the category of assessment is the internship section. Internships are a means of performance assessment. They are part of the curriculum that can determine if students are developing at the correct pace to in order to become efficient professionals in their specific discipline of the program. The HiiM [major](#) at WMU will eventually contain an internship segment that will be outlined in the handbook upon its development. The internship section of the handbook will be located near other assessment information in order to allow easy navigation for the reader.

Evaluation is the final aspect of curriculum development. It is vitally important for several reasons, it is used to identify the effectiveness of a program, it is used to decide what future assessments need to be used, and it is used to determine what changes need to be made if necessary. Every curriculum should have a means for ensuring continuous improvement and evaluation. Because [the](#) WMU-HiiM [major](#) was developed around a set of national standards,

these national parameters were used to further develop the [major](#) to meet the changing needs of society. On a smaller scale, it is important for faculty within Western Michigan University to continuously evaluate [this degree](#) to ensure that students are able to meet the goals and objectives specific to this individual course of study. An effective means of evaluation is participant input (Rink, 2009). Western Michigan University's current evaluation system (Instructor Course Evaluation System) will be used throughout the HiiM [major](#). The Bronson School of Nursing Handbook and the Temple University HiM Student Handbook both contain a statement of permission for the program to continuously update school policies. The WMU-HiiM Handbook also includes this critical feature. Their permission statement is as follows: "In order to maintain the quality and integrity of the Health Informatics and Information Management program, Western Michigan University reserves the right to update and/or revise school policies." This permission statement provides a means for WMU faculty to keep abreast of needed updates or changes.

After this discussion of the basic principles of curriculum development and design, I determined how they will be implemented in the WMU-HiiM handbook. However, it is also very important to understand the role this guidebook holds in the academic development of its users. As indicated by Vogel (2000), the final judge of the effectiveness of a guidebook is its users. In this case, the final judge of their HiiM handbook will be the enrolled students and prospective students in the HiiM [major](#). At the onset of the development of this handbook, an organization sequence was determined. Once this framework had been developed it was given to current faculty members to be reviewed and to receive feedback regarding accuracy and clarity of writing. Both of these steps influenced the formulation of the final product.

Eventually, the WMU-HiiM handbook will be produced and distributed to all individuals associated with the [major](#). In order for readers to have the best understanding possible of the WMU-HiiM [major](#), careful consideration was given to the key factors discussed in this paper. These factors are philosophy, goals and objectives, organization, assessment, evaluation, and ultimately the guidebook as a whole. In closing, it is my hope that all pupils, faculty, and staff will find this handbook of benefit.

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