FORMATIVE EVALUATION OF A REVISED CURRICULAR MODEL FOR THE ART INSTITUTE OF PHILADELPHIA'S WEB DESIGN & INTERACTIVE MEDIA PROGRAM

by

Timothy L. Snyder

An executive position paper submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Education in Educational Leadership

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DEDICATION

To my wife, fellow scholar, and best friend, Karen Girton-Snyder, without your unconditional love and support this accomplishment would not have been possible.

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ABSTRACT

The World Wide Web is a fluid, ever-changing medium, and computing technologies continue to progress at exponential rates. As platforms evolve and transform, so must the curricula that prepare tomorrow's designers and developers.

The Art Institute of Philadelphia's Web Design and Interactive Media curriculum has struggled to keep pace with the dramatic changes occurring with Web and computing technologies. This Executive Position Paper (EPP) seeks to evaluate and refine a curricular model for the Web Design and Interactive Media program that builds on the current curriculum's strengths and incorporates the latest Web and mobile technologies to better prepare future graduates for the challenges of tomorrow's competitive marketplace.

This EPP is divided into five chapters. Chapter one provides an introduction to the site and the department's faculty, staff and students as well as outlining the challenges faced and the goal of this effort.

Chapter two offers an in depth organizational analysis that explores the levels and spheres of practice within the organization as well as the qualifications and motivations within these strata. This chapter also seeks to uncover issues and meanings of authority within the groups and to identify potential obstacles to achieving the desired goal.

Chapter three explores the future of Web technologies through the predictions of noted industry leaders and analysts. This chapter also discusses the process by which the proposed curricular models were developed.

Chapter four details the evaluation design and methodology. The program's participants, external factors, assumptions, activities and outcomes are discussed. The evaluation questions as well as the program's variables and instruments are presented. The data collection procedures, project timeline and evaluation results are reviewed.

Lastly, chapter five presents my conclusions and recommendations, including revised curricula for the associate and bachelor's degree programs as well as my recommendations for faculty development and ongoing curricular assessment.

Chapter 1

INTRODUCTION

Overview

The Situation

The World Wide Web is a fluid, ever-changing medium. Its advance from yesterday's "Web 1.0" origins, as a static content presentation mechanism, to today's dynamic, user-centric, collaborative, "Web 2.0" environment has transformed the way we work, play, and learn. Tomorrow's "Web 3.0" promises an even richer, more immersive experience that allows users to access the Web from a variety of devices and in a multitude of new ways. In a 2006 article for the New York Times, written by Victoria Shannon, Sir Tim Berners-Lee, the conceptual creator of the World Wide Web, stated that "'Twenty years from now, we'll look back and say this was the embryonic period'…'The Web is only going to get more revolutionary'" (Shannon, 2006). Berners-Lee's predictions are already coming true as the next generation of the Web begins to roll out.

Likewise, computing technologies continue to progress at exponential rates. Yesterday's desktop computer is today's laptop and tomorrow's handheld device. As voice technologies continue to improve and multi-touch interfaces begin to replace the mouse and keyboard, we are about to enter a new era in computing. As platforms evolve and transform, so must the applications and Websites that run on

them. Tomorrow's designers and developers must be well versed in the nuances of these platforms and adept at leveraging their potential.

The Site

Artist, Philip Trachtman, founded the Art Institute of Philadelphia in 1971. Eight years later, Education Management Corporation, one of North America's largest providers of private, post-secondary education, acquired the small art college as part of their growing collection of higher education institutions. Today, the Art Institute of Philadelphia is largest of the forty-five Art Institutes spread across the United States and Canada. The school's enrollment has continued to grow ever since its inception, and the fall of 2008 class surpassed 3,600 students. The college offers thirteen Bachelor's of Science degrees and nine Associate of Science degree programs, ranging from Culinary Arts and fashion to Web Design and Interactive Media. This inquiry will focus specifically on the Web Design and Interactive Media curriculum at the Art Institute of Philadelphia; however, once developed and tested, this curriculum may be implemented across all the Art Institutes that offer a Web Design and Interactive Media program.

The Program

The Web Design and Interactive Media program at the Art Institute of Philadelphia began humbly in the mid 1990s as an associate degree program with a small faculty and a handful of students. The early graduates, armed with the latest skills and technological savvy, excelled in the burgeoning, interactive landscape of the time. Many started their own firms, winning accolades and prestigious clients along the way, while others were sought out to fill positions within the upper echelons of

many of the region's top companies. This early group of entrepreneurs and industry leaders went on to shape the region's interactive media industry. They also played a vital role in the success of the Interactive Media and Web Design program, which gave them their start, by exclusively hiring the program's graduates and by providing their expertise and advice to keep the program's curriculum honed to address the ever-changing demands of the region's marketplace. This ethos of loyalty and service continues with today's alumni as well. The program has grown into the region's premiere, higher education source for the interactive media field. Its graduates are prized by industry leaders like Lockheed Martin, Merck, Comcast, MTV, Yellow Book, CNet and others for their knowledge, technical skills and design acumen. The program's success has also been recognized by Bloomsburg University of Pennsylvania's acclaimed Institute for Interactive Technologies, which struck an exclusive articulation agreement that offers the program's qualified graduates guaranteed acceptance into the Master of Science in Instructional Technology program at the university. The Web Design and Interactive Media program at the Art Institute of Philadelphia is regarded as the benchmark program for the Art Institutes' system of schools. The program's curriculum often influences the curricula of other system schools as well as the system-wide curricular model for the Web Design and Interactive Media program.

The Faculty and Staff

The department's faculty is made up of six full-time faculty members with a combined 130 years of teaching experience and a total of more than 150 years of industry experience. Their disciplines of study include graphic design and fine art, media, computer science and instructional technology. Many hold terminal degrees in

their disciplines. The program's faculty is extremely stable. The department has engaged all of the program's six fulltime members since its creation in 1996, and the most senior member has been teaching at the college for more than 40 years. The program director has more than 15 years of teaching experience and more than 20 years of experience as a program director with the Art Institute of Philadelphia. The current director has been in charge of the Web Design and Interactive Media program since its inception.

The Students

The department's student body is a mix of traditional and nontraditional students, many of whom have matriculated at other institutions of higher learning before enrolling in the Web Design and Interactive Media program at the Art Institute of Philadelphia. They share an inquisitive nature and a passion for technology and its applications for creative, artistic solutions. The vast majority of the students tend to be kinesthetic learners who are most engaged by experiential teaching strategies.

Problem Statement

The Problem

The Art Institute of Philadelphia's Web Design and Interactive Media curriculum has struggled to keep pace with the dramatic changes occurring with Web and computing technologies. The current curricular model focuses primarily on Web 1.0 technologies delivered via traditional computing devices and only delves marginally into Web 2.0 technologies. While this tack has adequately prepared graduates for today's entry-level positions, it leaves them woefully unprepared for the mercurial landscape of tomorrow's workplace.

The Goal

The goal of this effort is to refine and evaluate a curricular model for the Web Design and Interactive Media program that builds on the current curriculum's strengths and incorporates the latest Web and mobile technologies to better prepare future graduates for the challenges of tomorrow's competitive marketplace.

Document Structure

Chapter Descriptions

This EPP is divided into five chapters. Chapter one provides an introduction to the site and the department's faculty, staff and students as well as outlining the challenges faced and the goal of this effort.

Chapter two offers an in-depth organizational analysis that explores the levels and spheres of practice within the organization as well as the qualifications and motivations within these strata. This chapter also seeks to uncover issues and meanings of authority within the groups and to identify potential obstacles to achieving the desired goal.

Chapter three explores the future of Web technologies through the predictions of noted industry leaders and analysts. This chapter also discusses the process by which the proposed curricular models were developed.

Chapter four details the evaluation design and methodology. The program's participants, external factors, assumptions, activities and outcomes are discussed. The evaluation questions as well as the program's variables and instruments are presented. The data collection procedures, project timeline and evaluation results are reviewed.

Lastly, chapter five presents conclusions and recommendations, including revised curricula for the associate and bachelor's degree programs as well as recommendations for faculty development and ongoing curricular assessment.

Chapter 2

ORGANIZATIONAL ANALYSIS

The Analytical Framework

To understand the challenges and opposition that the revised curricula might face, a pair of analytical "lenses" were used to examine the organization, its hierarchy and its varied viewpoints. The first of these lenses examines the organization's various *levels of practice*. This lens stratifies the organization into its various *discourses* and examines the hierarchical structure that shapes the program's curricula. The second lens, the *spheres of practice*, examines the role of each discourse and its relationship to the curricula. Combined, these lenses provide insight into the motivations of each discourse and aid in the identification of potential issues and obstacles that the curricula might face.

The Levels of Practice

There are six levels of practice within The Art Institute of Philadelphia's Web Design and Interactive Media program (Figure 2.1: Levels of Practice Organizational Chart). The Art Institutes' Web Design and Interactive Media DACUM committee is ultimately responsible for the curricular direction for all of the Web Design and Interactive Media programs in all of the Art Institutes, including the Art Institute of Philadelphia. The Art Institutes employ a DACUM-based approach to the design of their system-wide curricular model. "DACUM is an acronym for developing a curriculum. It is a one or two day storyboarding process that provides a

picture of what the worker does in terms of duties, tasks, knowledge, skills, traits and in some cases the tools the worker uses" (Unknown, 2012). This committee meets as needed to revise and evolve a system-wide curricular model that each of the Art Institutes is obligated to employ. Each school can vary their curricula by as much as 25% from the system-wide model to accommodate for regional variations and industry demands. This group is comprised of faculty, program directors, and administrators from all of the Art Institutes that offer Web Design and Interactive Media programs. The general governance and long-term direction of the program is controlled by the college's president and dean of education. The program's advisory board does not play an official role in the organization; however, they do represent the employers of Art Institute of Philadelphia graduates as well as the region's interactive industry and do have a direct impact on the program's curriculum and its implementation. The director for the Web Design and Interactive Media program manages the daily operation of the department and supports the program's faculty. The program's faculty is responsible for the day-to-day support and instruction of the program's students. The students are the ultimate consumers of the department's services.

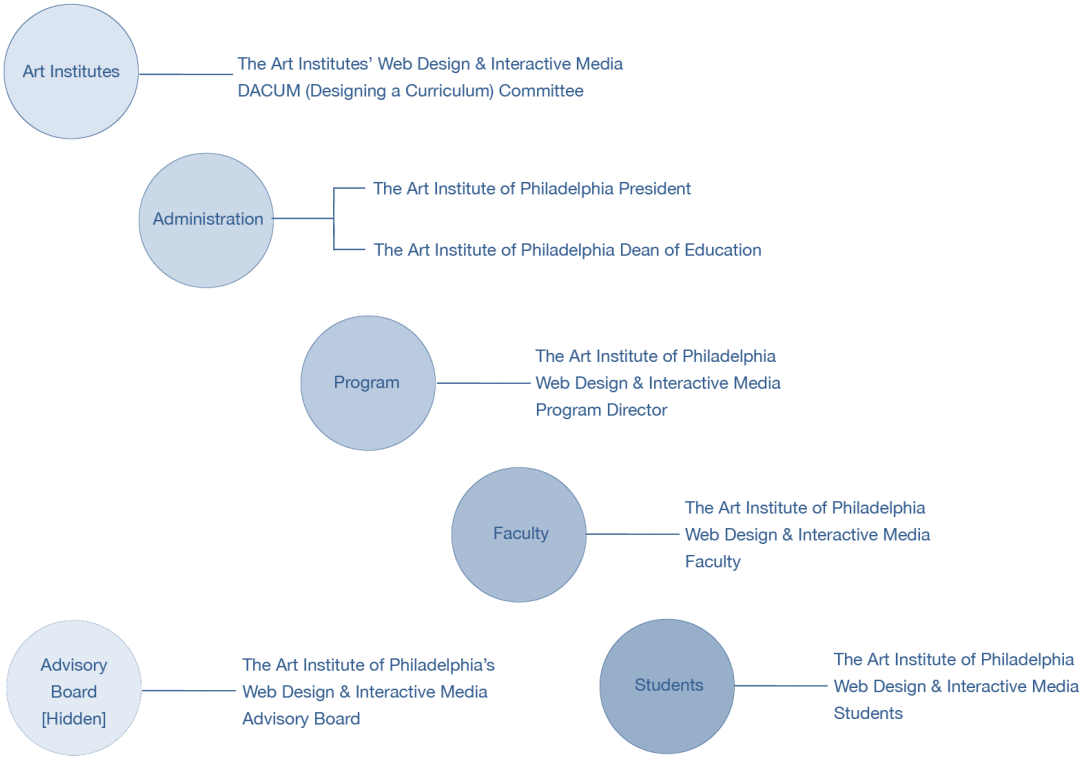

Figure 2.1: Levels of Practice Organizational Chart

The Spheres of Practice

There are six interrelated spheres of practice within the Art Institute of Philadelphia's Web Design and Interactive Media Program (Figure 2.2: Spheres of Practice). The Art Institutes sphere, comprised by the DACUM committee, is responsible for defining the long-term goals and direction of the Web Design and Interactive Media curricula across all of the Art Institutes. This group is also responsible for the design and development of the system-wide curricular model that all Art Institutes must follow. The administration sphere of practice is responsible for overseeing the program at the college level. The advisory board sphere of practice is

not part of the college's organizational hierarchy, and is therefore hidden; however, they represent the employers of the program's graduates and the industry as a whole. Therefore, their input directly influences the program's curriculum and its implementation. The program sphere, the program's director, is responsible for the support of the faculty and the day-to-day operation of the department. The faculty sphere of practice provides the subject matter expertise that drives the content and pedagogy for the program's course offerings. The final sphere of practice is the student body, whose consumption of the department's offerings provides the primary funding necessary for its existence.

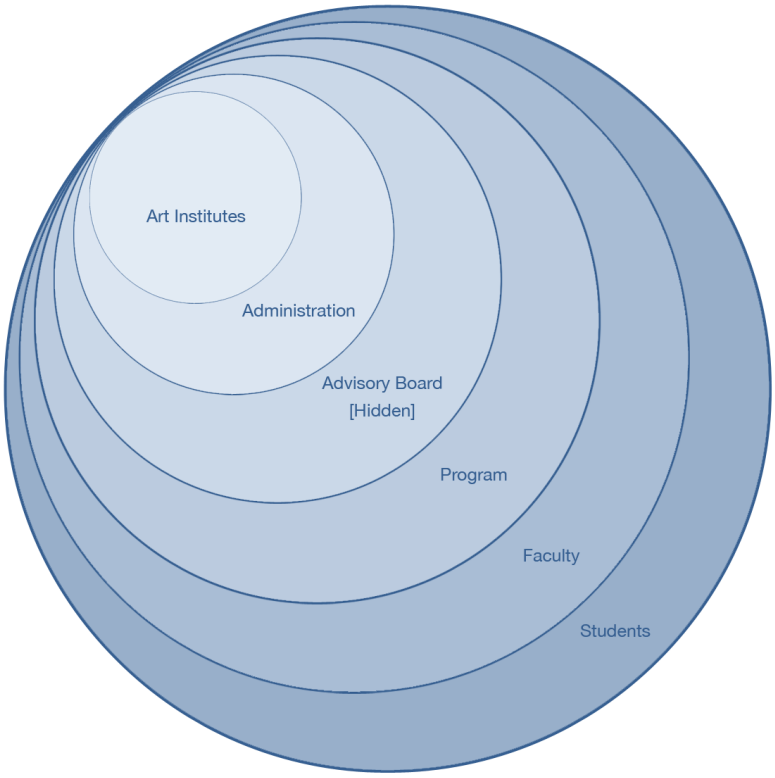

Figure 2.2: Spheres of Practice

The Qualifications and Motivating Factors within the Spheres of Practice

The Art Institutes sphere includes DACUM committee members from the 49 Art Institutes across the United States and Canada that offer a Web Design and Interactive Media curriculum. The committee includes faculty members, program directors, and administrators. Their backgrounds and academic credentials vary, but all have experience within their respective programs and most have professional experience in the interactive media industry in their region. One of the primary motivators for the Art Institutes sphere is the desire to create a consistent, curricular model that is applicable across all of the Art Institutes. This curricular consistency allows for credit equivalencies between schools and provides a more standardized model that can be applied to new additions to the Art Institutes system.

The administration sphere includes the Art Institute of Philadelphia's president, Michael DePrisco, and the college's dean of academic affairs, Dr. Raymond Becker. Michael DePrisco holds a bachelor's degree in secondary education and a master's degree in counseling and higher education administration. Both of his degrees were conferred by West Chester University of Pennsylvania. Dr. Raymond Becker holds a bachelor's degree in special education from the College of New Jersey, a master's degree in counseling psychology from Ball State University and a doctorate of education in higher education leadership from Widener University. The president's primary motivation is the viability of the institution as a whole and the success of its programs, whereas the dean's primary motivation is the academic integrity of the

institution and its programs as well as the academic achievement of the student body. The dean's interest and participation in this study make him an ideal champion of this effort within the Art Institute of Philadelphia and within the Art Institutes' DACUM committee as well.

The advisory board sphere is comprised of Web design and interactive media professionals from throughout the Philadelphia region. The board offers a cross-section of industry experiences from senior management to designers and developers. Their academic credentials vary, but all hold at least a bachelor's degree or higher in a related field. The members are employed by companies that hire Art Institute of Philadelphia graduates, and they all have a vested interest in the academic preparation that the program offers. Furthermore, several members of the board are alumni of the program and have additional insight into the program, its faculty, and student body. The advisory board's primary motivation is the professional preparedness of the program's graduates.

James Gallagher is the program director of the Art Institute of Philadelphia's Web Design and Interactive Media program. He holds a bachelor's degree in communications from Temple University and a master's degree in liberal arts from the University of Pennsylvania. Mr. Gallagher helped establish the Web Design and Interactive Media program at the Art Institute of Philadelphia more than 14 years ago and has led the department ever since. This coupled with his many years of experience as both a professor and as a program director at the Art Institute of Philadelphia along with his own participation in this process makes him especially

concerned with how this program would benefit the Web Design and Interactive Media program at the Art Institute of Philadelphia and across the Art Institutes' system. His primary motivation is the success of the program, its faculty, and students. He is also motivated by the employability of the graduates of the program.

The faculty sphere includes the six full-time faculty of the Web Design and Interactive Media program at the Art Institute of Philadelphia. The faculty contains two primary groups, (1) those that come from fine art or graphic design backgrounds, and focus primarily on design-related topics within the curriculum, and (2) those that come from either a communications or instructional technology background and teach the development-related courses within the curriculum. The design faculty members hold a minimum of a bachelor's, and in some cases master's of fine art degree, and all have industry-related professional experience or professional fine art experience. The development faculty members either hold a doctoral degree or are in the process of obtaining a doctoral degree in their respective fields. The faculty has a combined total of 130 years of teaching experience and more than 150 years of industry experience. The faculty sphere is motivated by the success of their students and the program as well as the relevance of the curriculum to the regional industry and their own academic interests. The faculty's ongoing participation and contributions to this effort ensure their support of the new curricular model.

The student sphere is comprised of the program's student body, which contains a mix of traditional and nontraditional students, many of whom have matriculated at other institutions of higher learning before enrolling in the Web Design

and Interactive Media program at the Art Institute of Philadelphia. They share an inquisitive nature and a passion for technology and its applications for creative, artistic solutions. The vast majority of the students tend to be kinesthetic learners who are most engaged by experiential teaching strategies. They are motivated by the relevance of the curriculum to their future employment and the adaptability of the curriculum to their own areas of interest and talent.

Changes in the Spheres of Practice

The Art Institutes sphere of practice would not be involved with an implementation of a revised curricular model at the Art Institute of Philadelphia as long as the revised model includes at least 75% of the system-wide curricular model, which it does. However, the Art Institutes' Web Design and Interactive Media DACUM committee is due to convene in the next year and will most likely produce a new system-wide model. The timing of this localized effort in conjunction with the system-wide DACUM is especially critical, as The Art Institute of Philadelphia's curricular model is often selected as a basis for the system-wide model.

The administration sphere of practice's involvement in the implementation of a revised curricular model would be negligible and would primarily involve their approval of the initiative.

The advisory board sphere of practice participation in this effort helped evaluate and shape both a preliminary curricular model and a revised curricular model. Now

that a proposed model has been developed, the advisory board's role will shift to one of maintenance and refinement once the model has been implemented.

The program sphere of practice has been involved with the creation of the proposed model and its alignment with system-wide restrictions as well as its adherence to accrediting body guidelines. Moving forward, this endeavor would require a high degree of commitment from the program sphere.

The faculty sphere would also be essential to the success of this initiative, as their ongoing participation in the curriculum's development and eventual implementation would be critical. The student sphere of practice would not have any direct involvement in the implementation of the revised curricular model; however, their support of the initiative would be critical to the long-term success of the endeavor, and they would be the primary recipients of the effort's benefit.

Issues of Meaning and Authority within the Spheres of Practice

The primary issue of meaning and authority within the spheres of practice lies between the Art Institutes' sphere and the Art Institute of Philadelphia spheres. Although the Art Institute of Philadelphia's Web Design and Interactive Media curriculum has often been an archetype for the system-wide model in the past, in recent years the DACUM committee has taken a more prescriptive approach and has left less room for regional variation. Another point of potential concern is that the

faculty, although supportive of the initiative, might not be as willing to adopt the new technologies and skillsets required by the revised model.

Obstacles to Achieving the Goal

There are two primary obstacles to making the implementation of this revised curricular model a reality. The first of these is the faculty resistance to learning the new skills and technologies required by the revised model. Many faculty view the shift to newer technologies as increasing their workload. The strategy for overcoming this obstacle relies on illustrating the benefits of these technologies to the success of the program and its students as well as the faculty in the long-term. This has been accomplished to a degree by seeking the participation of the faculty in the creation of the proposed model and in their continued participation in the implementation and maintenance of the model moving forward. The second and most potentially challenging obstacle to the success of this initiative is the Art Institutes' Web Design and Interactive Media DACUM, which is scheduled to convene in the upcoming year. There is the potential that the DACUM committee could recommend something other than the recommendations provided in this effort. Although this is hard to predict, it is likely that the DACUM committee will not recommend sweeping change to the existing model, as that would prove troublesome with the various regional and national accreditation bodies. Modest change to the current model is the expected outcome of this DACUM. Moreover, if the proposed model, developed in this effort,

is successfully implemented in Philadelphia, it could act as a foundation for the system-wide model as well as a pilot for the rest of schools.

Chapter 3

REVISING THE CURRICULA

The Strategy

The Art Institutes' Web Design and Interactive Media DACUM committee is ultimately responsible for the curricular direction and the design and development of the system-wide curricular model for all of the Web Design and Interactive Media programs in all of the Art Institutes, including the Art Institute of Philadelphia. However, individual schools are allowed to vary their curricula by as much as 25% from the prescribed system-wide curricular model. This possibility for variation offers the opportunity to address the shortcomings of the existing curricula through a series of revisions and additions to achieve the goal of this effort.

A Systematic Approach

Due to the complexity of this undertaking and the diverse pool of stakeholders, a systematic approach was deemed most appropriate. This process began with an investigation into the technologies that are predicted to shape the next iteration of the Web. This exploration led to the identification of key technologies and the development of a proposed topical model, which was used to frame discussions between the program's faculty, administration, and advisory board on which technologies to include in the program's curricula moving forward. These discussions led to the identification of several key technologies, deemed most

pertinent to the program moving forward, and guided the revisions to the topical model.

The existing curricula were also reviewed and discussed by the stakeholders to determine which aspects were succeeding and which were failing. These dialogues highlighted the strengths and weaknesses of the existing curricula and offered guidance as to which legacy courses should carry over to the proposed curricula and which should be eliminated or revised.

Based on the insights uncovered regarding the existing curricula and the revised topical model, the proposed curricula were developed. Once completed, the proposed curricula underwent a formal evaluation process to determine their efficacy for the students, the school, and the region's industry. The following chapter details this process and outlines the evaluation's results.

Identifying Tomorrow's Web Technologies

The Future of the Web

This section explores the writings and presentations of industry analysts and luminaries as well as the specifications and guidelines put forth by the Web's governing body, the World Wide Web Consortium, in an effort to understand the changing landscape of the Web and to determine which technologies will be critical to the success of tomorrow's Web designers and developers.

Kevin Kelly, co-founder and senior maverick of *Wired Magazine*, discussed the evolution of the Internet in a T.E.D. Partner Series video presentation entitled *Kevin Kelly on the next 5,000 days of the Web* (TED, 2008). In the video, he described the early origins of the Internet as the linking of computers. He goes on to

explain that the current version of the Internet links "pages" and that the future version of the Web will link data (TED, 2008). The concept of *linked data* is central to what is being called the Semantic Web, a term coined by the creator of the World Wide Web and founder of the World Wide Web Consortium, Sir Tim Berners-Lee. Berners-Lee discusses his vision for the next generation of the Web and the potential of Semantic Web technologies in a TED video production entitled *Tim Berners-Lee on the next Web* (TED, 2009). He explicates that the Semantic Web will allow for connections between the many forms of data existing on the Web today and that these connections will offer untold potential for education, science, government and society (TED, 2009; Ohler, 2010). These connections will bring meaning to the endless volumes of information stored on the Internet and will enable tomorrow's smart devices and applications. The Semantic Web has already taken root with many of the Web's most visited sites including Google, Facebook and YouTube.

Another central component of the *next* Web is what is known as *Cloud Computing*. Cloud Computing distributes the storage and processing of data across the Web itself. Google, one of the early proponents of Cloud Computing, has already made significant steps towards this aim with their collection of *Google Applications* that utilize this approach. They are currently developing a Cloud-based operating system called *Chrome* (Unknown, 2009). Cloud Computing transforms the Internet into a singular, ubiquitous computer, or what Kevin Kelly calls a "Global Machine" (TED, 2008). Kelly states that the Internet's current processing power is comparable to that of a single human brain; however, he adds that if the Internet continues to grow at its current rate, it will possess the computing power of six billion human brains by the year 2040, which will exceed the processing power of humanity itself (TED,

2008). The combination of linked data and cloud computing will transform the Web, as we know it, into an intelligent, omnipresent entity that will connect every person, place and thing in the world and, as Kelly believes, will lead to our codependence with the Web and our reliance on it for nearly every aspect of our lives (TED, 2008).

Richard MacManus, a long time, industry pundit, New York Times syndicated author and the founder and co-editor of one of the Web's most respected technology blogs, *ReadWriteWeb,* has compiled a list of ten trends expected to shape the third iteration of the Internet; the list includes (MacManus, 2007):

- Semantic Web Technologies
- Artificial Intelligence
- Virtual Worlds
- Mobile Technologies
- Attention Economy Technologies
- Web Sites as Web Services
- Online Media Technologies
- Rich Internet Application Technologies
- Internationalization Technologies
- Personalization Technologies

Steven Bratt, chief executive officer of the World Wide Web Consortium, in a November 2007 slideshow presentation entitled *Now and Future Web Technologies* discussed many of the same technologies put forth by MacManus, Berners-Lee, Kelly and others as well as stressing the importance of accessibility in future iterations of the Web (Bratt, 2007).

A reliance on open, rather than proprietary, standards is the central theme of the technologies forecasted to shape the third generation of the Internet. Although this is a dramatic turn from many of today's Web technologies, it is by no means a new idea. In fact, we owe much of our modern computing and Web experience to the egalitarian nature of seminal organizations, such as the Homebrew Computing Club, Xerox PARC, SUN Microsystems and others. The movement towards open standards

may have started with individual groups and companies in the early days of the industry; however, it has grown into a global effort including organizations and individuals from around the planet with the common aim of advancing the state of the technology. This reliance on open standards ensures that the data housed on the next version of the Web will be adaptable and flexible enough to provide delivery across a variety of platforms and access for any who seeks it.

Definition of Future Web Technologies

In his technology blog, *ReadWriteWeb,* Richard MacManus defines the ten technologies that he, and others, believe will form the foundation of the future Web (MacManus, 2007). The following is a synopsis of those definitions:

- ***Semantic Web Technologies*** *– technologies that assign meaning to the Web's data and allow for higher degrees of information integration*
- ***Artificial Intelligence*** *– the integration of artificial intelligence technologies into Web sites and Web-based platforms*
- ***Virtual Worlds*** *– online virtual environments, such as Second Life and others*
- ***Mobile Technologies*** *– Web and application technologies for mobile platforms such as the iPhone, iPad, Android Mobile Phones, etc.*
- ***Attention Economy Technologies*** *– consumers agree to receive services in exchange for their attention, such as personalized searches, news services, etc.*
- ***Web Sites as Web Services*** *– technologies that allow a Web site's "information" to be available to other platforms and technologies for mash-ups and other information integration strategies*
- ***Online Media Technologies*** *– allow for the integration of audio and media content online, such as Hulu, ABC, NBC, etc.*
- ***Rich Internet Application Technologies*** *– technologies that blend desktop applications with Web applications and content*

- ***Internationalization Technologies*** *– making the Web more accessible to individuals of cultural or lingual groups that might otherwise not be able to access the Web's content through traditional means*
- ***Personalization Technologies*** *– Web sites that allow users to customize the presentation and selection of information based on their personal preferences and needs*
- ***Web Accessibility*** *– making the Web more accessible to individuals who face challenges that might otherwise limit their access to the Web's content through traditional means*

Developing a Curricular Topical Model

The Proposed Curricular Topical Model

The technologies identified in the previous section were reviewed and discussed with the program's academic director. Based on his feedback and my own experience within the region's industry, a proposed, curricular topic model was developed (Figure 3.1: Proposed Curricular Topical Model). This topical model explored potential employment opportunities for program graduates as well as the topics and technologies to be included in the curriculum. The model included the core Web design and development courses of the existing curricula and added new courses that addressed the future Web and mobile technologies, which were thought to be most relevant to the program moving forward.

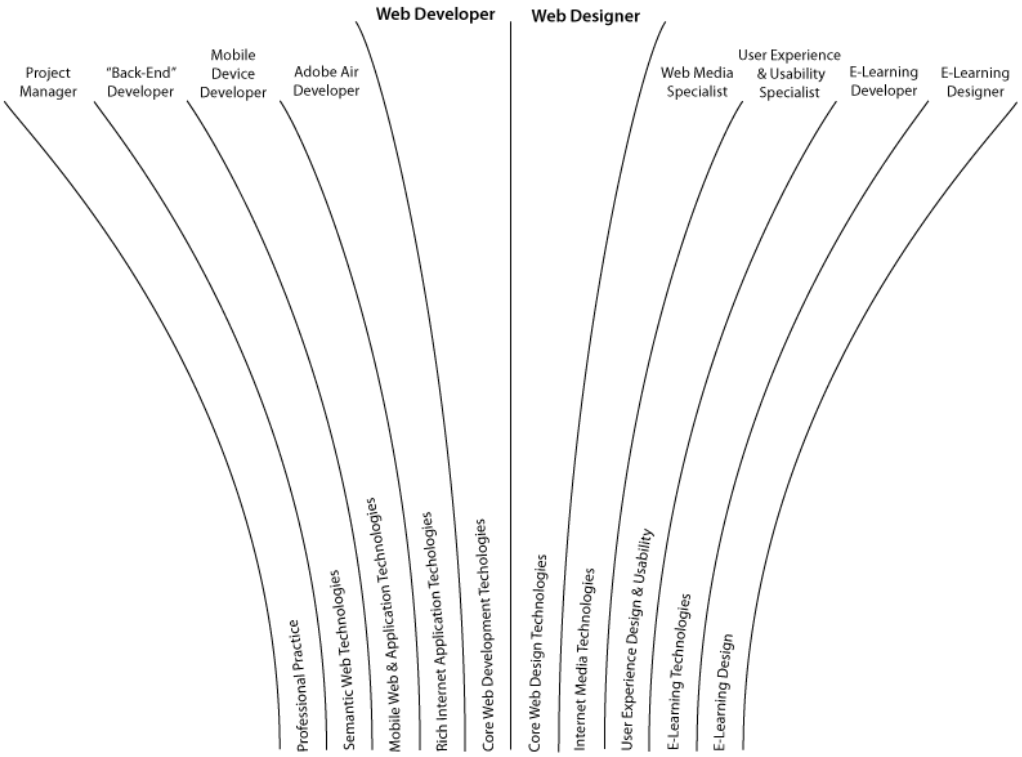

Figure 3.1: Proposed Curricular Topical

Criteria for Success

Based on my initial review and discussions with the program's academic director, six criteria were identified as indicators of the applicability of the curricular topical model for the Art Institute of Philadelphia's Web Design and Interactive Media program; these included:

- ***Appropriateness of the Technologies*** *– were the technologies selected thought to be pertinent to the future of the Web?*
- ***Art Institutes' System Goals and Expectations*** *– does the proposed curricular model align with the Art Institutes' system goals and expectations?*

- ***Art Institute of Philadelphia's Goals and Expectations*** *– does the proposed curricular model align with the Art Institute of Philadelphia's goals and expectations?*
- ***Faculty Interests and Expertise*** *– do the current faculty's skill sets and interests allow for the adoption of new technologies into the curriculum?*
- ***Student Interests, Learning Styles and Expectations*** *– does the proposed curriculum align with the student body's interests, learning styles and expectations?*
- ***Advisory Board Goals and Expectations*** *– were the technologies selected pertinent to the employers that hire program graduates and to the regional industry?*

Proposed Curricular Topical Model Review and Discussions

In an effort to gauge the applicability of the proposed curricular topical model based on the criteria discussed in the previous section, the program's faculty, academic director and advisory board were asked to review the proposed model and offer their feedback and suggestions for improvement.

This review highlighted several points of consensus between the program's director, faculty and advisory board regarding the successes of the current curriculum and the proposed curricular model. The proposed model was widely praised for its inclusion of new technologies without sacrificing the strong, foundational, core courses of the existing curriculum. Several technologies included in the proposed model garnered unanimous support and were thought to be extremely influential to the future success of the program's graduates. These included semantic Web technologies, mobile technologies and online media technologies. Many recommended the addition of advanced markup and scripting languages courses to bolster the foundational courses already offered in the existing curricula. Most agreed that technologies, such as Websites as services, rich Internet applications,

personalization, internationalization and accessibility will play a major role in the industry's future and should be included in the curricula revision.

Artificial intelligence, virtual world technologies and attention economy technologies were considered noteworthy, but not to a degree that they should be incorporated into the curriculum as independent topics of study. It was recommended that these technologies be included as topics of study within existing courses in the curriculum that introduce students to new and emerging technologies.

Although most agreed that, the Objective C programming language was the most robust and flexible platform for developing applications for Apple's mobile devices, they all agreed that it was too challenging a language for the large majority of the program's students, especially given the limited number of courses that could be offered.

Based on the feedback and suggestions received, a revised model was created (Figure 3.2: Revised Curricular Topical Model). This revised model proved to be less revolutionary and more evolutionary in its nature. The revised model still offered areas of specialization, such as user experience design and Web media technologies, but it focuses on topics more related to the existing Web design and development core, such as mobile Web design instead of mobile application development. This subtle adjustment allowed for a more pointed topical model and provided a path forward with the curricula revisions.

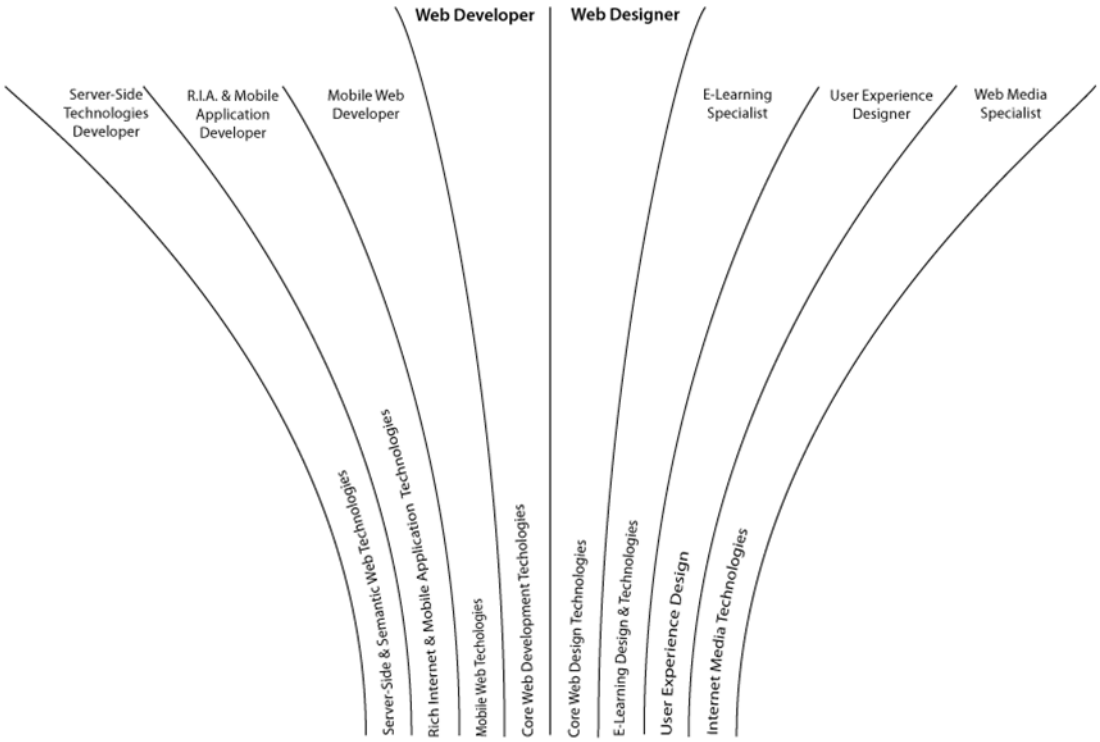

Figure 3.2: Revised Curricular Topical Model

The Existing Curricula

The Existing Associate's Curriculum

The Art Institute of Philadelphia's existing Web Design and Interactive Media Associate's curriculum offers a broad spectrum of courses from audio and video production to Web design and e-learning. The diversity of the course offerings has expanded over the years in an attempt to prepare graduates for a variety of potential employment outcomes; however, this broadening of course offerings has

detracted from the depth to which any topic can be addressed. Although this aim is not without merit, this lack of focus and the overabundance of media-specific coursework have led to the weakening of the curriculum as a whole, leaving many students unprepared for the demands of entry-level work within the industry. The existing curriculum also suffers from numerous sequencing issues that overload students in some quarters and fail to challenge them in others. These issues also hinder the overall continuity study and limit the transfer of knowledge and skills from one course to the next. Figure 3.3 outlines the existing associate's curriculum progression.

QTR 1	Fundamentals of Drawing D	Fundamentals of Design D	History of Motion Media & Mass Communications G	Computer Science G	English Composition I G
QTR 2	Programming Logic W	Color Theory D	Digital Typography D	Image Manipulation D	English Composition II G
QTR 3	Introduction to Scripting Languages W	Introduction to Audio M	Advanced Image Manipulation D	College Math G	Art History: Baroque to Contemporary G
QTR 4	Intermediate Scripting Languages W	Audio Production for Interactive Design M	Web Design Workshop W	Effective Speaking G	General Education Elective G
QTR 5	E-Learning Design U	Dynamic Web Scripting J	Digital Illustration D	Concepts in Motion Design I	Introduction to Geometry G
QTR 6	E-Learning Production U	Interactive Motion Graphics I	Media Elective M	Ethics G	Physics G
QTR 7	Digital Portfolio I P	Project Management P	Media Elective M	WD&IM Elective W	Business Law G
QTR 8	Digital Portfolio II P	Internship P	Advanced Web Scripting V	Aesthetics G	General Education Elective G
KEY	Design D	Interactive Media I	JavaScript Technologies J	Media Technologies M	Professional Practice P
	Self-Directed Learning S	User-Centered Design U	Server-Side Technologies V	Web Design W	General Education G

Figure 3.3: Existing Associate's Curriculum

Existing Associate's Curriculum Core Course Descriptions

- ***Fundamentals of Drawing*** *– an introductory life drawing course that covers the rules of perspective and composition*

  Primary Software – N/A

- ***Fundamentals of Design*** *– an introductory course that explores pencil and marker drawing techniques*

  Primary Software – N/A

- ***Programming Logic*** *– an introductory course that explores fundamental programming concepts and techniques with the JavaScript scripting language*

  Primary Software – Adobe Dreamweaver

- ***Color Theory*** *– an introductory course that examines the theory behind color and its use*

  Primary Software – N/A

- ***Digital Typography*** *– an introductory course that explores the various facets of typography and its use*

  Primary Software – Adobe Illustrator

- ***Image Manipulation*** *– an introductory course that explores digital design and raster graphic techniques as well as the use of Adobe's Photoshop application*

  Primary Software – Adobe Photoshop

- ***Introduction to Scripting Languages*** *– an introductory course that explores fundamental Web design strategies and techniques, including hypertext Markup Language (HTML) and Cascading Style Sheets (CSS)*

  Primary Software – Adobe Dreamweaver

- ***Introduction to Audio*** *– an introductory course that explores audio, including recording and editing techniques*

  Primary Software – Avid Pro Tools

- ***Advanced Image Manipulation*** *– a second-level course that furthers the learner's understanding of digital design principles and advanced Adobe Photoshop techniques*

  Primary Software – Adobe Photoshop

- ***Intermediate Scripting Languages*** *– an introductory course that explores fundamental programming concepts and techniques with the JavaScript scripting language*

  Primary Software – Adobe Dreamweaver

- ***Audio Production for Interactive Design*** *– a second-level audio course that explores the intricacies of audio production for interactive projects*

  Primary Software – Avid Pro Tools

- ***Web Design Workshop*** *– a second-level course that furthers the learner's understanding of Web design and introduces advanced hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) techniques*

  Primary Software – Adobe Dreamweaver

- ***E-Learning Design*** *– an introductory course that explains key instructional design principles and their application in online learning environments as well as providing an introduction to audience analysis and User-Centered Design strategies*

  Primary Software – Combination

- ***Dynamic Web Scripting*** *– a second-level course that explores the JavaScript scripting language and dynamic hypertext Markup Language (DHTML)*

  Primary Software – Combination

- ***Digital Illustration*** *– an introductory course that explores digital illustration and vector graphic techniques as well as the use of Adobe's Illustrator application*

  Primary Software – Adobe Illustrator

- ***Concepts in Motion Design*** *– an introductory course that explores fundamental concepts and techniques used in the creation of animation and motion graphics for the Web*

  Primary Software – Adobe Flash

- ***E-Learning Production*** *– a second-level course that furthers the learner's understanding of E-Learning principles by asking them to develop instructional projects in online learning environments, such as Moodle*

  Primary Software – Combination

- ***Interactive Motion Graphics*** *– a second-level course that explores more advanced interactive media strategies and scripting techniques*

  Primary Software – Adobe Flash

- ***Media Elective*** *– entry-level, elective courses relating to a specific media type, such as Photography, Video Production, 3D Modeling, etc.*

  Primary Software – Combination

- ***Digital Portfolio I*** *– a first-level course in which the student refines their body of work and prepares a preliminary, Web portfolio*

  Primary Software – Combination

- ***Project Management*** *– a team-based course that casts students in the role of production team members and asks them to respond to a mock Request for Proposal (RFP)*

  Primary Software – Combination

- ***Media Elective*** *– entry-level, elective courses relating to a specific media type, such as Photography, Video Production, 3D Modeling, etc.*

  Primary Software – Combination

- ***Web Design and Interactive Media Elective*** *– advanced elective courses within the major, covering topics not included in the required courses*

  Primary Software – Combination

- ***Digital Portfolio II*** *– a second-level course in which the student refines their Web portfolio and creates a complimentary Mobile Web portfolio*

  Primary Software – Combination

- ***Internship*** *– an introductory course that explores fundamental concepts and techniques used in the creation of animation and motion graphics for the Web*

  Primary Software – Combination

- ***Advanced Web Scripting*** *– an introductory course that explores fundamental programming concepts and techniques behind server-side Web design and development*

  Primary Software – Adobe Dreamweaver

The Existing Bachelor's Curriculum

The Art Institute of Philadelphia's existing Web Design and Interactive Media bachelor's curriculum offers a broad spectrum of courses, much like the associate's program; however, the extra year of study allows students to delve deeper into several of the curriculum's core topics. Also like the associate's curriculum, the diversity of the course offerings in the bachelor's curriculum has expanded over the years in an attempt to address the demands of an ever-changing marketplace. The curriculum's scattered focus and overabundance of media-specific coursework has led to a wilting of the curriculum overall. Numerous sequencing issues hinder continuity and limit the transfer of knowledge and skills from one course to the next. Figure 3.4 outlines the existing bachelor's curriculum progression (Figure 3.4: Existing Bachelor's Curriculum).

QTR 1	Fundamentals of Drawing D	Fundamentals of Design D	History of Motion Media & Mass Communication G	Computer Science G	English Composition I G
QTR 2	Color Theory D	Image Manipulation D	Digital Typography D	Programming Logic W	English Composition II G
QTR 3	Introduction to Scripting Languages W	Introduction to Audio M	Advanced Image Manipulation D	College Math G	Art History: Baroque to Contemporary G
QTR 4	Intermediate Scripting Languages W	Audio Production for Interactive Design M	Web Design Workshop W	General Education Elective G	Effective Speaking G
QTR 5	Dynamic Web Scripting J	E-Learning Design U	Digital Illustration D	Concepts in Motion Design I	Introduction to Geometry G
QTR 6	Media Elective M	E-Learning Production U	Interactive Motion Graphics I	General Education Elective G	Physics G
QTR 7	Media Elective M	Project Management P	Designing for Interactive Media U	U.S. History G	Ethics G
QTR 8	Advanced Web Scripting V	WD&IM Elective W	Introduction to User-Centered Design U	Business Law G	Western Civilization G
QTR 9	Advanced Topics in Web Programming J	Interactive Motion Scripting I	Usability Testing U	Net Broadcasting M	Aesthetics G
QTR 10	Senior Project Research W	Emerging Technologies W	Integrated Information Design U	Designing for Server-Side Technologies V	Theory of Communication G
QTR 11	Senior Project Application & Defense W	Digital Portfolio I P	Professional Practice P	General Education Elective G	Logic G
QTR 12	Digital Portfolio II P	WD&IM Elective W	Internship P	General Education Elective G	General Education Elective G

KEY				
Design D	Interactive Media I	JavaScript Technologies J	Media Technologies M	Professional Practice P
Self-Directed Learning S	User-Centered Design U	Server-Side Technologies V	Web Design W	General Education G

Figure 3.4: Existing Bachelor's Curriculum

Existing Bachelor's Curriculum Core Course Descriptions

- ***Fundamentals of Drawing*** *– an introductory life drawing course that covers the rules of perspective and composition*

  Primary Software – N/A

- ***Fundamentals of Design*** *– an introductory course that explores pencil and marker drawing techniques*

  Primary Software – N/A

- ***Color Theory*** *– an introductory course that examines the theory behind color and its use*

  Primary Software – N/A

- ***Digital Typography*** *– an introductory course that explores the various facets of typography and its use*

  Primary Software – Adobe Illustrator

- ***Image Manipulation*** *– an introductory course that explores digital design and raster graphic techniques as well as the use of Adobe's Photoshop application*

  Primary Software – Adobe Photoshop

- ***Programming Logic*** *– an introductory course that explores fundamental programming concepts and techniques with the JavaScript scripting language*

  Primary Software – Adobe Dreamweaver

- ***Introduction to Scripting Languages*** *– an introductory course that explores fundamental Web design strategies and techniques, including hypertext Markup Language (HTML) and Cascading Style Sheets (CSS)*

  Primary Software – Adobe Dreamweaver

- ***Introduction to Audio*** *– an introductory course that explores audio, including recording and editing techniques*

  Primary Software – Avid Pro Tools

- ***Advanced Image Manipulation*** *– a second-level course that furthers the learner's understanding of digital design principles and advanced Adobe Photoshop techniques*

  Primary Software – Adobe Photoshop

- ***Intermediate Scripting Languages*** *– an introductory course that explores fundamental programming concepts and techniques with the JavaScript scripting language*

  Primary Software – Adobe Dreamweaver

- ***Audio Production for Interactive Design*** *– a second-level audio course that explores the intricacies of audio production for interactive projects*

  Primary Software – Avid Pro Tools

- ***Web Design Workshop*** *– a second-level course that furthers the learner's understanding of Web design and introduces advanced hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) techniques*

  Primary Software – Adobe Dreamweaver

- ***Dynamic Web Scripting*** *– a second-level course that explores the JavaScript scripting language and dynamic hypertext Markup Language (DHTML)*

  Primary Software – Combination

- ***E-Learning Design*** *– an introductory course that explains key instructional design principles and their application in online learning environments as well as providing an introduction to audience analysis and User-Centered Design strategies*

  Primary Software – Combination

- ***Digital Illustration*** *– an introductory course that explores digital illustration and vector graphic techniques as well as the use of Adobe's Illustrator application*

  Primary Software – Adobe Illustrator

- ***Concepts in Motion Design*** *– an introductory course that explores fundamental concepts and techniques used in the creation of animation and motion graphics for the Web*

  Primary Software – Adobe Flash

- ***Media Elective*** *– entry-level, elective courses relating to a specific media type, such as Photography, Video Production, 3D Modeling, etc.*

  Primary Software – Combination

- ***E-Learning Production*** *– a second-level course that furthers the learner's understanding of E-Learning principles by asking them to develop instructional projects in online learning environments, such as Moodle*

  Primary Software – Combination

- ***Interactive Motion Graphics*** *– a second-level course that explores more advanced interactive media strategies and scripting techniques*

  Primary Software – Adobe Flash

- ***Media Elective*** *– entry-level, elective courses relating to a specific media type, such as Photography, Video Production, 3D Modeling, etc.*

  Primary Software – Combination

- ***Project Management*** *– a team-based course that casts students in the role of production team members and asks them to respond to a mock Request for Proposal (RFP)*

  Primary Software – Combination

- ***Designing for Interactive Media*** *– a first-level, user-centered design course that explores the application of design principles in interactive environments*

  Primary Software – Combination

- ***Advanced Web Scripting*** *– an introductory course that explores fundamental programming concepts and techniques behind server-side Web design and development*

  Primary Software – Adobe Dreamweaver

- ***Web Design and Interactive Media Elective*** *– advanced elective courses within the major, covering topics not included in the required courses*

  Primary Software – Combination

- ***Introduction to User-Centered Design****– an entry-level course in User-Centered Design that focuses on an iterative, user-centric design approach*

  Primary Software – Combination

- ***Advanced Topics in Web Programming*** *– a second-level course that explores more advanced server-side concepts and strategies, including the relational database management system, MySQL*

  Primary Software – Combination

- ***Interactive Motion Scripting*** *– a third-level course that explores more advanced interactive media strategies and scripting techniques*

  Primary Software – Adobe Flash

- ***Usability Testing*** *– a second-level course that explores the topic of User-Centered Design and introduces the learner to concepts and strategies of Usability Testing*

  Primary Software – Combination

- ***Net Broadcasting*** *– an introductory course that explores the creation and use of the various media forms found on the Web*

  Primary Software – Combination

- ***Senior Project Research*** *– a research effort that informs the design of the student's novel, senior project effort*

  Primary Software – Combination

- ***Emerging Technologies*** *– a survey-style course that introduces the learner to various Web technologies and platforms*

  Primary Software – Combination

- ***Integrated Information Design*** *– a third-level User Experience course that discusses the sub disciplines of Accessible Web Design and Internationalization*

  Primary Software – Combination

- ***Designing for Server-Side Technologies*** *– a third and final-level course in advanced server-side strategies and techniques*

  Primary Software – Combination

- ***Senior Project Application and Defense*** *– the second level, development effort that brings the student's senior project design to fruition as a functional product.*

  Primary Software – Combination

- ***Digital Portfolio I*** *– a first-level course in which the student refines their body of work and prepares a preliminary, Web portfolio*

  Primary Software – Combination

- ***Professional Practice*** *– an introductory course that explores fundamental programming concepts and techniques behind server-side Web design and development*

  Primary Software – Combination

- ***Digital Portfolio II*** *– a second-level course in which the student refines their Web portfolio and creates a complimentary Mobile Web portfolio*

  Primary Software – Combination

- ***Web Design and Interactive Media Elective*** *– advanced elective courses within the major, covering topics not included in the required courses*

  Primary Software – Combination

- ***Internship*** *– an introductory course that explores fundamental concepts and techniques used in the creation of animation and motion graphics for the Web*

  Primary Software – Combination

The Existing Curricula Review and Discussions

The program's faculty, academic director, and advisory board were asked to review the existing curricula and offer feedback on its strengths and weaknesses as well as suggestions for its improvement. The Web design and development core courses of both the associate and bachelor's curricula were praised by all; however, it

was widely agreed that the courses in these areas should be revised to include the latest emerging technologies and advances. It was also agreed that both of the curricula offer far too many media-specific courses. While the artistic merits of these courses were acknowledged, it was conceded that they were not relevant to the employment outcomes of the program's graduates and it would be wise to limit their inclusion in the curricula moving forward. A number of sequencing issues were also identified in both curricula. It was thought that these sequencing issues led to disconnects within the curricula and hindered the transfer of knowledge and skills between courses. An important note was raised regarding the relationship between the Web design courses and the JavaScript courses, especially in light of the new HTML5 course that will rely more heavily on JavaScript.

The Proposed Curricula

Bachelor's Degree Program Curriculum Overview

The revised curricular topical model provided the underpinnings of the proposed curriculum for the bachelor's degree program. This proposed curriculum incorporated the core Web design and development courses of the current curriculum and added new courses that addressed the future Web and mobile technologies that were thought to be most relevant to the program moving forward based on the findings of the topical model review. The proposed curriculum sought to address the sequencing issues that plagued the current curriculum by ensuring that foundational courses, in related topical areas, were appropriately sequenced and grouped. The proposed curriculum also places a strong emphasis on user-centered design paradigms with each year focusing on varying aspects of this theme. Additionally, the proposed curricular revisions placed emphasis on self-directed learning with the aim of better preparing graduates for the demands of an ever-changing, professional marketplace. The proposed curriculum includes the same general education courses as the existing curriculum because these courses fall under the purview of other departments.

An Introduction to Cognitive Apprenticeships

The skill-based nature of the program's curriculum coupled with the student body's propensity for kinesthetic, experiential learning and the industry's demand for continuing professional development led to the exploration of apprenticeship themes in the revision of the curriculum (Figure 3.5: Bachelor's Degree Curriculum Progression).

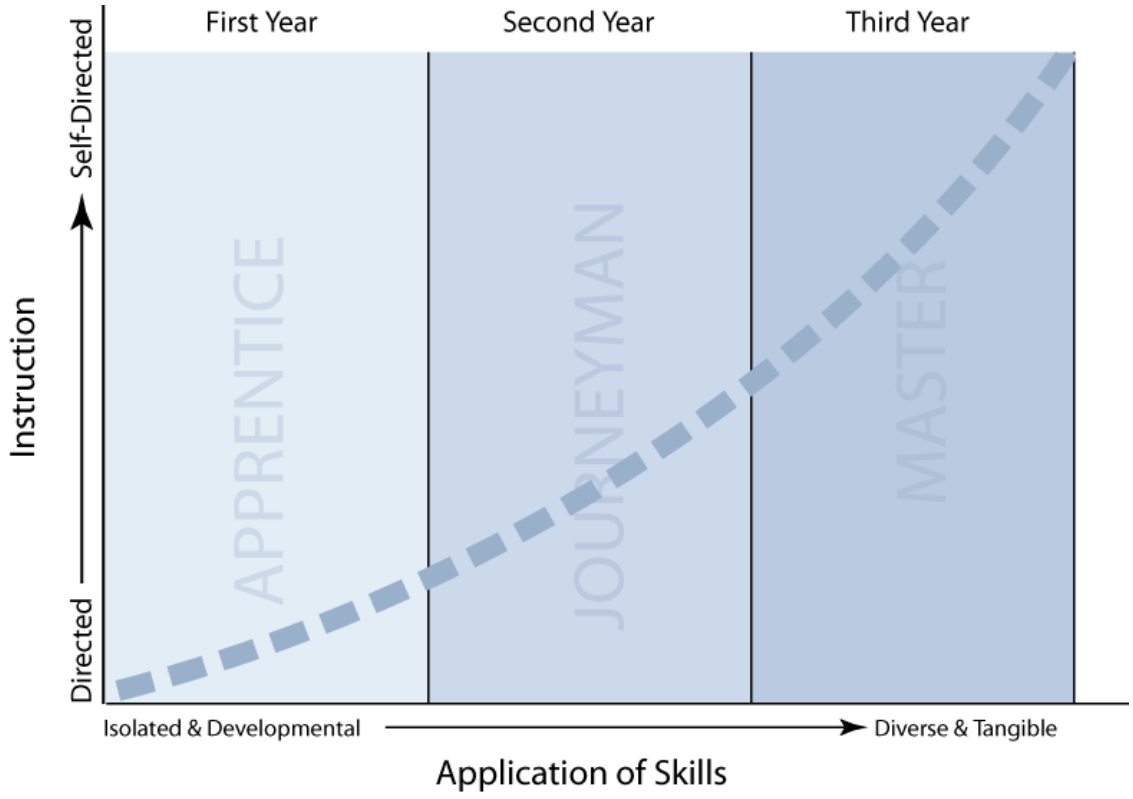

Figure 3.5: Bachelor's Degree Curriculum Progression

This approach is rooted in Jean Lave's theory of *Situated Cognition*, which "focuses on learning as enculturation into a practice" (Brown, 2006, p. 20). As Brown, Collins and Duguid (1989, p. 4) argue, "People who use tools [knowledge] actively rather than just acquire them, by contrast, build an increasingly rich implicit understanding of the world in which they use the tools and of the tools themselves." In an effort to best leverage the potential of this pedagogical approach, a cognitive apprenticeship model was chosen. As described by Collins, Brown, and Newman (1987, p. 5), cognitive apprenticeships focus on "…teaching the processes that experts use to handle complex tasks" while "… solving problems and carrying out tasks." "That is, in cognitive apprenticeship, conceptual and factual knowledge is exemplified

and situated in the contexts of its use. Conceptual knowledge thus becomes known in terms of its uses in a variety of contexts, encouraging both a deeper understanding of the meaning of the concepts themselves and a rich web of memorable associations between important concepts and problem-solving contexts" (Collins et al., 1987, p. 5).

The first year of this curriculum focuses on modeling "whereby teachers or coaches promote learning, first by making explicit their tacit knowledge or by modeling their strategies for students in authentic activity" (Brown et al., 1989, p. 19). This draws connections to the apprentice phase of traditional apprenticeships where the master, or teacher, demonstrates the fundamental skills necessary to mastering the craft. The second year emphasizes coaching in which "…teachers and colleagues support students' attempts at doing the task" (Brown et al., 1989, p. 19). In this phase, the teacher engages the student in meaningful tasks and provides the scaffolding necessary to allow the student to accomplish the task successfully. This process emulates the journeyman phase of an apprenticeship process in which focus is placed on the application of the apprentice's burgeoning skills in real-world scenarios. In this phase, aspects of self-directed learning are introduced as students are presented with design and development challenges that force them to explore and further advance their topical knowledge to meet the demands of the solutions that they have envisioned. This stage also employs Lev Vygotsky's concept of the *Zone of Proximal Development*, which suggests that "we design authentic tasks that are more difficult than students may handle alone, but not so difficult that they can't be resolved with the support of peers or teachers who model appropriate strategies" (Oliver, 1999, p. 5). The third and final year introduces fading strategies that allow the teacher to "…empower the students to continue independently" (Brown et al., 1989, p. 19). This

phase places an even stronger emphasis on self-directed learning in preparation for the student's professional development outside of traditional academia by challenging students to research and develop skills in areas outside of the presented curriculum. Students are aided in this process by the addition of a new course that introduces them to skills and strategies necessary for self-directed learning. Furthermore, teachers will offer scaffolding, as needed, to facilitate student learning and to continue the learner's progression. During this final step in the student's preparation, the learner focuses on mastery of skills as well as the exploration of areas of specialization as they transition from apprentice/journeyman to master. This final year of study also encourages reflection as students compile past efforts and refine their work for inclusion in their final professional portfolios.

Proposed Bachelor's Degree Coursework

The coursework in the first year of study is primarily foundational introducing the learner to fundamental principles of design and development as they relate to Web design and interactive media. Much like their apprentice counterparts, students are developing foundational skills in this phase of their progression oftentimes in isolation and out of applicable contexts, which will come later in their academic preparation. The bulk of the curriculum's design-related courses are found in the program's first year; however, the application of the skills developed in these courses progresses through all three years of the curriculum.

Many of the courses in the second year of study build upon the first-year foundational courses, such as in the case of the course entitled *Introduction to Scripting Languages*, which builds directly upon the first year offering *Programming Foundations*. However, some of the courses are more tangential, taking the learner in

new directions and exploring new mediums to apply the principles they learned in the first year, such as in the case of the two mobile Web design courses. Still other courses, such as *Emerging Technologies, Introduction to Interactive Media,* and *Introduction to Server-Side Technologies* introduce the learner to new topics and techniques and encourage them to begin more in-depth study on their own.

Much like their journeyman counterparts, second-year students are expected to employ the principles they are learning and the skills they are developing in more meaningful and concrete ways, such as in the *Project Management* course where students assume the roles of production team members and are tasked with responding to a request for proposal. In this course, students work together to develop a proposed solution and then present their proposals to industry professionals for real-world feedback on their efforts.

As noted earlier, this curriculum emphasizes various User-Centered Design paradigms. The first-year courses, *Designing for Interactivity* and *E-Learning Design,* introduce the students to the fundamental principles of a User-Centered Design approach. The second-year course, *Introduction to User Experience Design,* advances upon these foundational concepts by exploring the emerging discipline of User Experience Design, which accounts for all aspects of the user experience from the tangible to the conceptual. This course also introduces learners to the field of Information Architecture, which focuses on the organization and access to information in various forms.

In the third, and final, year of study the instructional approach is split between traditional, direct instruction, such as in the case of the server-side or interactive media courses, and self-directed learning, as in the *Senior Project Research*

and *Senior Project Development*. The course entitled *Self-Directed Learning* indoctrinates students in this approach and provides them with best-practice strategies for this method. The self-directed learning courses aim to prepare students for the rigorous demands of the industry as well as providing them with tools to aid in life-long learning.

Much like a master of a trade, third-year students are expected to demonstrate mastery of their craft through the design and development of novel products and in the creation of a portfolio demonstrating their body of work. To mark this transition from student/apprentice to professional/master, the student works with real-world clients, under the tutelage of a professor, in the *Professional Practice* course and with actual employers in a college-sanctioned and monitored internship program.

Midway through the final year, emphasis shifts from defining and refining skills to application of those skills in preparation for graduation and entry into the job market. During the first half of the final year of matriculation, students are encouraged to define their own areas of specialization within the field, and they are expected to highlight this specialization in their portfolios and senior project efforts in the second half of the year. Along with their actual portfolios, students are also required to prepare marketing materials, such as resumes, business cards, and other promotional items that will aid them in their employment search as well as participating in mock interviews and discussion with career services representatives.

Figure 3.6 illustrates the proposed bachelor's curriculum and indicates which courses include significant alterations in content, sequence, and/or pedagogy. The following section, Proposed Bachelor's Degree Course Descriptions, provides descriptions of each course and indicates the type of change that has been proposed for any given course. It is important to note that some of the proposed course titles have been altered to address the topics being covered or to represent their place in the sequence of courses within a topical group. Changes in name only have not been denoted. It is important to note that changes to course sequence are not reflected in the 25% variation total allowed by the Art Institutes system-wide model. Furthermore, the 25% variation rules also allow for topical additions to courses as long as the system-wide curricular model objectives are addressed. This allowance provides further flexibility and extends the potential for the addition of new topics without exceeding the 25% variation rule.

QTR 1	Fundamentals of Drawing D	Fundamentals of Design D	Color Theory CHANGE D	Computer Science G	English Composition I G
QTR 2	Digital Typography D	Digital Illustration CHANGE D	Introduction to Digital Design CHANGE D	College Math CHANGE G	English Composition II G
QTR 3	Introduction to Web Design CHANGE W	Designing for Interactivity CHANGE U	Advanced to Digital Design CHANGE D	Introduction to Geometry CHANGE G	Art History: Baroque to Contemporary G
QTR 4	Intermediate Web Design CHANGE W	Programming Foundations CHANGE J	E-Learning Design CHANGE U	Effective Speaking G	History of Motion Media & Mass Communications CHANGE G
QTR 5	Introduction to Mobile Web Design CHANGE W	Introduction to Scripting Languages CHANGE J	E-Learning Production CHANGE U	Physics CHANGE G	Ethics CHANGE G
QTR 6	Advanced Mobile Web Design CHANGE W	Intermediate Scripting Languages CHANGE J	Project Management CHANGE P	General Education Elective G	Business Law CHANGE G
QTR 7	Advanced Web Design CHANGE W	Advanced Scripting Languages CHANGE J	Web Technologies & Systems CHANGE V	Aesthetics CHANGE G	U.S. History CHANGE G
QTR 8	Introduction to Server-Side Technologies CHANGE V	Introduction to Interactive Media CHANGE I	User-Experience Design CHANGE U	General Education Elective CHANGE G	Western Civilization G
QTR 9	Intermediate Server-Side Technologies CHANGE V	Intermediate Interactive Media CHANGE I	Usability Testing U	Introduction to Media Technologies CHANGE M	Theories of Communication CHANGE G
QTR 10	Advanced Server-Side Technologies CHANGE V	Advanced Interactive Media CHANGE I	Accessible Web Design CHANGE U	Advanced Media Technologies M	Logic CHANGE G
QTR 11	Digital Portfolio I P	Professional Practice P	Senior Project Research CHANGE S	Self-Directed Learning CHANGE S	General Education Elective G
QTR 12	Digital Portfolio II P	Internship P	Senior Project Development CHANGE S	General Education Elective G	General Education Elective G

KEY				
Design D	Interactive Media I	JavaScript Technologies J	Media Technologies M	Professional Practice P
Self-Directed Learning S	User-Centered Design U	Server-Side Technologies V	Web Design W	General Education G

Figure 3.6: Proposed Bachelor's Degree Coursework

Proposed Bachelor's Degree Course Descriptions

- ***Fundamentals of Drawing*** *– an introductory life drawing course that covers the rules of perspective and composition*

  Primary Software – N/A

- ***Fundamentals of Design*** *– an introductory course that explores pencil and marker drawing techniques*

  Primary Software – N/A

- ***Color Theory*** *– an introductory course that examines the theory behind color and its use*

  Primary Software – N/A

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

- ***Digital Typography*** *– an introductory course that explores the various facets of typography and its use*

  Primary Software – Adobe Illustrator

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

- ***Digital Illustration*** *– an introductory course that explores digital illustration and vector graphic techniques as well as the use of Adobe's Illustrator application*

  Primary Software – Adobe Illustrator

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

- ***Introduction to Digital Design*** *– an introductory course that explores digital design and raster graphic techniques as well as the use of Adobe's Photoshop application*

  Primary Software – Adobe Photoshop

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

- ***Introduction to Web Design*** *– an introductory course that explores fundamental Web design strategies and techniques, including hypertext Markup Language (HTML) and Cascading Style Sheets (CSS)*

  Primary Software – Adobe Dreamweaver

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

- ***Designing for Interactive Media*** *– a first-level, user-centered design course that explores the application of design principles in interactive environments*

  Primary Software – Combination

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

- ***Advanced Digital Design*** *– a second-level course that furthers the learner's understanding of digital design principles and advanced Adobe Photoshop techniques*

  Primary Software – Adobe Photoshop

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

- ***Intermediate Web Design*** *– a second-level course that furthers the learner's understanding of Web design and introduces advanced hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) techniques*

  Primary Software – Adobe Dreamweaver

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

- ***Programming Foundations*** *– an introductory course that explores fundamental programming concepts and techniques with the JavaScript scripting language*

  Primary Software – Adobe Dreamweaver

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

- ***E-Learning Design*** *– an introductory course that explains key instructional design principles and their application in online learning environments as well as providing an introduction to audience analysis and User-Centered Design strategies*

  Primary Software – Combination

- ***Introduction to Mobile Web Design*** *– an introductory course that explores fundamental Web design strategies and techniques for mobile platforms, such as smart phones and other hand-held devices*

  Primary Software – Adobe Dreamweaver

  ** New Course – this course has been added to better align with the goals of the new curricula and to address Web technological advancements*

- ***Introduction to Scripting Languages*** *– a second-level course that explores the JavaScript scripting language and dynamic hypertext Markup Language (DHTML)*

  Primary Software – Combination

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

- ***E-Learning Production*** *– a second-level course that furthers the learner's understanding of E-Learning principles by asking them to develop instructional projects in online learning environments, such as Moodle*

  Primary Software – Combination

- ***Advanced Mobile Web Design*** *– a second-level course that explores advanced strategies and techniques for mobile Web design and development*

  Primary Software – Adobe Dreamweaver

  ** New Course – this course has been added to better align with the goals of the new curricula and to address Web technological advancements*

- ***Intermediate Scripting Languages*** *– a third-level course that further explores the JavaScript scripting language and the JQuery JavaScript library*

  Primary Software – Adobe Dreamweaver

  ** New Course – this course has been added to better align with the goals of the new curricula and to address Web technological advancements*

- ***Project Management*** *– a team-based course that casts students in the role of production team members and asks them to respond to a mock Request for Proposal (RFP)*

  Primary Software – Combination

- ***Advanced Web Design*** *– an advanced course that explores the latest Web design and development advancements, including version 5 of the hypertext Markup Language (HTML 5) and version 3 of Cascading Style Sheets (CSS 3)*

  Primary Software – Adobe Dreamweaver

  ** New Course – this course has been added to better align with the goals of the new curricula and to address Web technological advancements*

- ***Advanced Scripting Languages*** *– a fourth and final-level scripting course that explores a client-side, interrelated approach to Web design/development known as AJAX (Asynchronous Javascript And XML)*

  Primary Software – Adobe Dreamweaver

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

- ***Web Technologies and Systems*** *– a survey-style course that introduces the learner to various Web technologies and platforms as well as content management systems*

  Primary Software – Combination

  ** New Course – this course has been added to better align with the goals of the new curricula and to address Web technological advancements*

- ***Introduction to Server-Side Technologies*** *– an introductory course that explores fundamental programming concepts and techniques behind server-side Web design and development*

  Primary Software – Adobe Dreamweaver

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

- ***Introduction to Interactive Media*** *– an introductory course that explores fundamental concepts and techniques used in the creation of animation and motion graphics for the Web*

  Primary Software – Adobe Flash

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

- ***User Experience Design****– a second-level course in User-Centered Design that focuses on the discipline of User Experience Design*

  Primary Software – Combination

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

- ***Intermediate Server-Side Technologies*** *– a second-level course that explores more advanced server-side concepts and strategies, including the relational database management system, MySQL*

  Primary Software – Combination

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

- ***Intermediate Interactive Media*** *– a second-level course that explores more advanced interactive media strategies and scripting techniques*

  Primary Software – Adobe Flash

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

- ***Usability Testing*** *– a second-level course that explores the topic of User Experience Design and introduces the learner to concepts and strategies of Usability Testing*

  Primary Software – Combination

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

- ***Introduction to Media Technologies*** *– an introductory course that explores the creation and use of the various media forms found on the Web*

  Primary Software – Combination

  ** New Course – this course has been added to better align with the goals of the new curricula and to address Web technological advancements*

- ***Advanced Server-Side Technologies*** *– a third and final-level course in advanced server-side strategies and techniques including Semantic Web Technologies*

  Primary Software – Combination

  ** New Course – this course has been added to better align with the goals of the new curricula and to address Web technological advancements*

- ***Advanced Interactive Media*** *– a third and final-level interactive media course that includes development strategies for mobile platforms and rich Internet applications, also known as RIA*

  Primary Software – Adobe Flash Suite (Flash, Builder and Flex)

  ** New Course – this course has been added to better align with the goals of the new curricula and to address Web technological advancements*

- ***Accessible Web Design*** *– a third-level User Experience course that discusses the sub disciplines of Accessible Web Design and Internationalization*

  Primary Software – Combination

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

- ***Advanced Media Technologies*** *– a second-level course that explores the effective compression and delivery of the various media forms found on the Web*

  Primary Software – Combination

- ***Digital Portfolio I*** *– a first-level course in which the student refines their body of work and prepares a preliminary, Web portfolio*

  Primary Software – Combination

- ***Professional Practice*** *– an introductory course that explores fundamental programming concepts and techniques behind server-side Web design and development*

  Primary Software – Combination

- ***Senior Project Research*** *– a self-directed learning and research effort that informs the design of the student's novel, senior project effort*

  Primary Software – Combination

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

  ** Pedagogical Change – this course's presentation should include self-directed learning practices and scaffolding*

- ***Self-Directed Learning*** *– a blended-delivery course that mixes direct instruction on best practices for self-directed learning with actual self-directed learning focused on the topic and skills required for the student's senior project*

  Primary Software – Combination

  ** New Course – this course has been added to better align with the goals of the new curricula and to address Web technological advancements*

- ***Digital Portfolio II*** *– a second-level course in which the student refines their Web portfolio and creates a complimentary Mobile Web portfolio*

  Primary Software – Combination

- ***Internship*** *– an introductory course that explores fundamental concepts and techniques used in the creation of animation and motion graphics for the Web*

  Primary Software – Combination

- ***Senior Project Development*** *– the second-level, self-directed learning and development effort that brings the student's senior project design to fruition as a functional product.*

  Primary Software – Combination

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

** Pedagogical Change – this course's presentation should include self-directed learning practices and scaffolding*

Associate's Degree Program Curriculum Overview and Design

The three primary goals of the associate's curricular revisions were:

- ***Preparation for Entry-Level Positions*** *– students graduating with an associate's degree in Web Design and Interactive Media from the Art Institute of Philadelphia should be prepared for entry-level Web design and development positions*
- ***Maximal Transfer of Credits into the Bachelor's Degree Program*** *– upon completion of an associate's degree in Web Design and Interactive Media at the Art Institute of Philadelphia students should be able to apply the majority of their credits earned towards their bachelor's degree*
- ***Ease of Transition into the Bachelor's Degree Program*** *– upon completion of an associate's degree in Web Design and Interactive Media at the Art Institute of Philadelphia students should be able to transition seamlessly into the bachelor's degree program without scheduling conflicts or repeated coursework*

Toward these goals the preliminary curriculum design for the bachelor's degree program's first six quarters were used as the foundation of the associate's degree curriculum with minor alterations to the curriculum where necessary. This curriculum incorporated the core Web design and development courses of the bachelor's degree curriculum as well as the professional practice and portfolio courses required for graduation.

The skill-based nature of the program's curriculum coupled with the student body's propensity for kinesthetic, experiential learning and the industry's demand for continuing professional development led to the exploration of traditional, apprenticeship approaches in the revisions to this curriculum. The learner's progression parallels a traditional apprenticeship process in which the focus is placed

on direct instruction and the development of fundamental skill sets with a focus on the application of skills in real world scenarios.

Proposed Associate's Degree Coursework

The coursework in the first year of study is primarily foundational and introduces the learner to fundamental principles of design and development as they relate to Web design and interactive media. Much like their apprentice counterparts, students are developing foundational skills in this phase of their progression. The bulk of the curriculum's design-related courses are found in the program's first year; however, the application of the skills developed in these courses progresses throughout the curriculum. The first year of the associate's degree curriculum coincides directly with the first year of the bachelor's degree, thereby achieving the primary goals of credit transfer and ease of transition.

Because of the abbreviated nature of the associate's degree program, the second year is comprised of two quarters of study. The coursework in the second year builds directly upon the first year's foundational courses. The second year of the program also adds internship and portfolio courses to better prepare the students for graduation and their subsequent job search. Second-year students are expected to employ the principles they are learning and the skills they are developing in more meaningful and concrete ways, such as in the *Project Management* course where students assume the roles of production team members and are tasked with responding to a request for proposal. In this course students work together to develop a proposed solution, and then they present their proposals to industry professionals for real-world feedback on their efforts.

Like the bachelor's program, this curriculum also emphasizes various User-Centered Design paradigms. The first-year courses, *Designing for Interactivity* and *E-Learning Design,* introduce the students to the fundamental principles of a User-Centered Design approach. The second-year course, *E-Learning Production,* allows the learner to apply these concepts in the development of an online instructional product.

In the last two quarters of study, emphasis shifts from defining and refining skills to application of those skills in preparation for graduation and entry into the job market. Along with their actual portfolios, students are also required to prepare marketing materials, such as resumes, business cards, and other promotional items that will aid them in their employment search as well as participating in mock interviews and discussions with career services representatives.

Figure 3.7 illustrates the proposed associate's degree curriculum and indicates which courses include significant alterations in content, sequence, and/or pedagogy. The following section, Proposed Associate's Degree Course Descriptions, provides descriptions of each course and indicates the type of change that has been proposed for any given course. It is important to note that some of the proposed course titles have been altered to address the topics being covered or to represent their place in the sequence of courses within a topical group. Changes in name only have not been denoted.

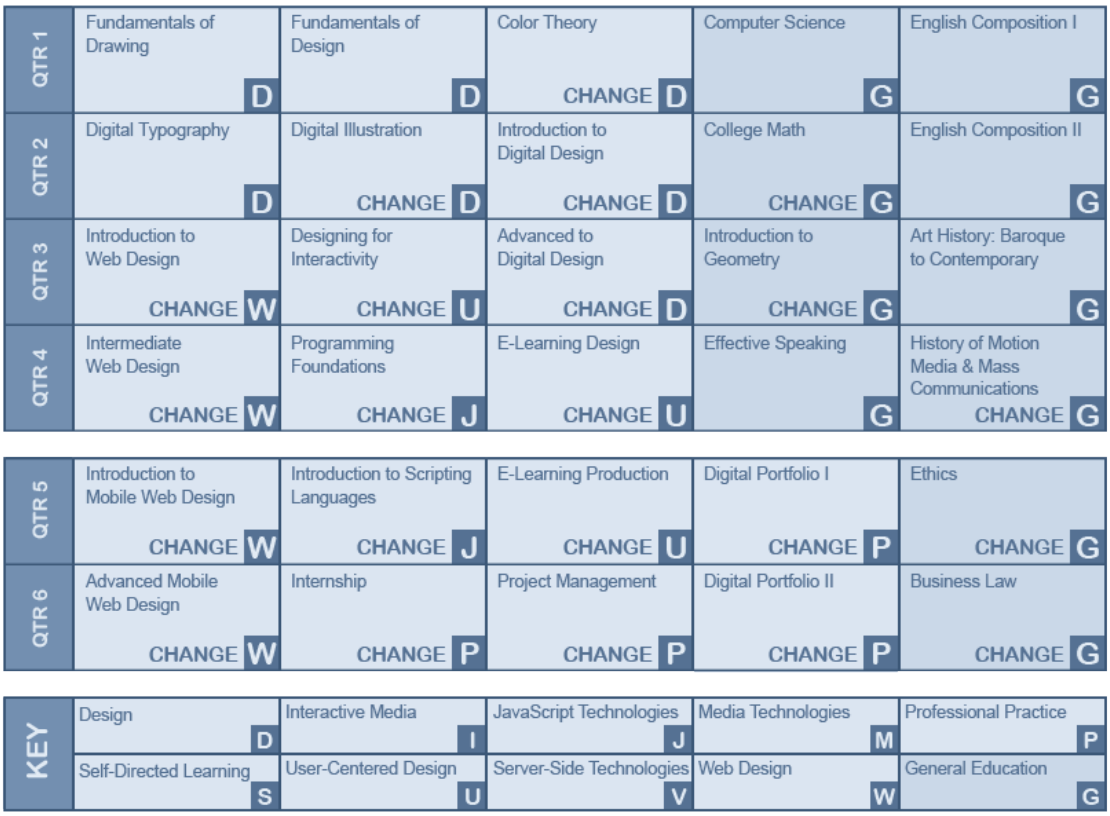

Figure 3.7: Associate's Degree Program Proposed Coursework

Proposed Associate's Degree Course Descriptions

- ***Fundamentals of Drawing*** *– an introductory life drawing course that covers the rules of perspective and composition*

  Primary Software – N/A

- ***Fundamentals of Design*** *– an introductory course that explores pencil and marker drawing techniques*

  Primary Software – N/A

- ***Color Theory*** *– an introductory course that examines the theory behind color and its use*

  Primary Software – N/A

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

- ***Digital Typography*** *– an introductory course that explores the various facets of typography and its use*

  Primary Software – Adobe Illustrator

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

- ***Digital Illustration*** *– an introductory course that explores digital illustration and vector graphic techniques as well as the use of Adobe's Illustrator application*

  Primary Software – Adobe Illustrator

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

- ***Introduction to Digital Design*** *– an introductory course that explores digital design and raster graphic techniques as well as the use of Adobe's Photoshop application*

  Primary Software – Adobe Photoshop

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

- ***Introduction to Web Design*** *– an introductory course that explores fundamental Web design strategies and techniques, including hypertext Markup Language (HTML) and Cascading Style Sheets (CSS)*

  Primary Software – Adobe Dreamweaver

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

- ***Designing for Interactive Media*** *– a first-level, user-centered design course that explores the application of design principles in interactive environments*

  Primary Software – Combination

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the proposed curricula*

- ***Advanced Digital Design*** *– a second-level course that furthers the learner's understanding of digital design principles and advanced Adobe Photoshop techniques*

  Primary Software – Adobe Photoshop

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

- ***Intermediate Web Design*** *– a second-level course that furthers the learner's understanding of Web design and introduces advanced hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) techniques*

  Primary Software – Adobe Dreamweaver

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the proposed curricula*

- ***Programming Foundations*** *– an introductory course that explores fundamental programming concepts and techniques with the JavaScript scripting language*

  Primary Software – Adobe Dreamweaver

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the proposed curricula*

- ***E-Learning Design*** *– an introductory course that explains key instructional design principles and their application in online learning environments as well as providing an introduction to audience analysis and User-Centered Design strategies*

  Primary Software – Combination

- ***Introduction to Mobile Web Design*** *– an introductory course that explores fundamental Web design strategies and techniques for mobile platforms, such as smart phones and other hand-held devices*

  Primary Software – Adobe Dreamweaver

  ** New Course – this course has been added to better align with the goals of the proposed curricula and to address Web technological advancements*

- ***Introduction to Scripting Languages*** *– a second-level course that explores the JavaScript scripting language and dynamic hypertext Markup Language (DHTML)*

  Primary Software – Combination

  ** Sequence Change – this course's placement in the curriculum has been altered to address sequencing concerns and to better balance the student's course load*

  ** Topic Change – this course's topics and objectives have been altered to better align with the goals of the new curricula*

- ***E-Learning Production*** *– a second-level course that furthers the learner's understanding of E-Learning principles by asking them to develop instructional projects in online learning environments, such as Moodle*

  Primary Software – Combination

- ***Digital Portfolio I*** *– a first-level course in which the student refines their body of work and prepares a preliminary, Web portfolio*

  Primary Software – Combination

- ***Advanced Mobile Web Design*** *– a second-level course that explores advanced strategies and techniques for mobile Web design and development*

  Primary Software – Adobe Dreamweaver

  ** New Course – this course has been added to better align with the goals of the proposed curricula and to address Web technological advancements*

- ***Internship*** *– an introductory course that explores fundamental concepts and techniques used in the creation of animation and motion graphics for the Web*

  Primary Software – Combination

- ***Project Management*** *– a team-based course that casts students in the role of production team members and asks them to respond to a mock Request for Proposal (RFP)*

  Primary Software – Combination

- ***Digital Portfolio II*** *– a second-level course in which the student refines their Web portfolio and creates a complimentary Mobile Web portfolio*

  Primary Software – Combination

Curricula Revision Summary

Summary of the Curricula Revision Process

Revision is a process of change that, when done correctly, captures the best of the old and the promise of the new. With this in mind, this revisionary process began with an exploration of tomorrow's Web through the eyes of some of the industry's most acclaimed visionaries. This glimpse into the future of Web revealed a vast number of possibilities – too many to include in a single curricular model.

To determine which aspects of tomorrow's Web were most pertinent to the program's curricula, a lens was developed in the form of a curricular topical model. This model provided a viewpoint of the future Web technologies from the

perspective of potential employment outcomes for the program's graduates, thereby allowing for the identification of the future technologies most pertinent to the region's industry and therefore most critical to the program's curricula. With the promise of the new in hand, attention was turned to capturing the best of the existing curricula and identifying the weaknesses. This was accomplished through a series of reviews and frank discussions with the program's faculty, staff and advisory board. Feedback from both the curricular topical model discussions and the existing curricula review led to the creation of proposed curricula for both the associate's and bachelor's degree programs.

Evaluating the Validity of the Proposed Curricula

The redesign of both the associate and bachelor's curricula is a major undertaking, and its outcome could have a dramatic effect on future graduates of the program as well as the longevity of the program itself. In order to ensure the validity of the proposed curricula, a formal evaluation was devised. This evaluation would assess the proposed curricula from a number of perspectives. The advisory board was included to provide insight into the curricula from the perspective of the region's industry. The program's faculty offered pedagogical acumen as well as their knowledge of the student body's strengths and instructional needs. Lastly, the program's academic director was included to ensure that the administration and accrediting bodies' opinions were included.

Chapter 4

FORMATIVE EVALUATION DESIGN AND METHODOLOGY

The Formative Evaluation

Overview

This evaluation sought to provide a better understanding of the complexities of the issue at a local level and to identify the courses and sequencing that best suited the demands of the regional Web design and interactive media industry as well as the faculty and students of the Art Institute of Philadelphia. The findings of this evaluation were used to refine the proposed curricula and provided insight into the challenges that this program might face.

The data was collected through a series of interviews and focus group discussions. The audiences included members of the Art Institute of Philadelphia Web Design and Interactive Media faculty, the program's director, and advisory board members. Current students were not included in the evaluation due to their lack of expertise with the various technologies being reviewed; however, several members of the advisory board were alumni of the program and offered industry expertise as well as a student's perspective.

Face-to-face interviews were chosen over other strategies because they offered opportunities to explore the questions in greater depth. Group interviews, or focus groups, were conducted with the faculty and advisory board because of the number of participants in each group and the logistical complications that individual

interviews would cause. This strategy maximized participation within these groups and led to a "brainstorming" air that proved to be quite successful in both instances. The potential downside to this choice is that the feedback of some individuals may have been lessened due to the number of participants and time constraints involved.

To ensure the reliability and comparability of the data collected, a common interview protocol was used in both the individual interview and the focus group interviews.

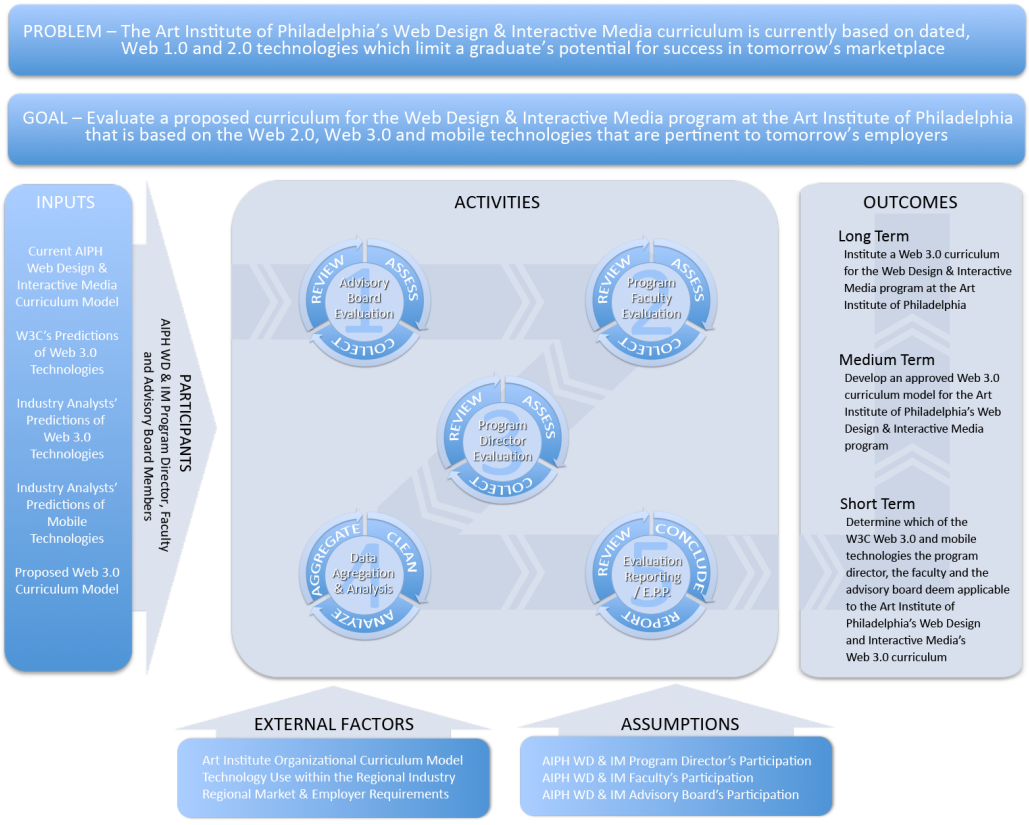

Figure 4.1: Formative Evaluation Logic Model

Program Inputs

The program inputs included the current Art Institute of Philadelphia Web Design and Interactive Media curriculum, the World Wide Web Consortium and industry analyst predictions regarding future Web and mobile technologies, and the proposed curriculum for the Web Design and Interactive Media curriculum, which is based on current Web 2.0 technologies as well as future Web 3.0 and mobile technologies.

External Factors

The external factors that influence the program include the Art Institute's curriculum model for the Web Design and Interactive Media program. This model applies to all colleges in the Art Institute system that offer this major. The Art Institute system requires that a significant percentage of the curricula at each school share common elements to offer a more homogenous experience across the schools. The technologies used within the region's industry greatly influence the marketability of the program's graduates and in turn influence which technologies are most pertinent to the program. Other skills or characteristics held in high regard by the region's employers can also affect the character and offerings of the curricula.

Participants

The program's participants included the Art Institute of Philadelphia's Web Design and Interactive Media program director, faculty and advisory board.

PARTICIPANT DEMOGRAPHICS	INDICATORS	ACADEMIC DIRECTOR n = 1	FACULTY n = 6	ADVISORY BOARD n = 7
	Age Range	61 and over	31-40, 41-50, 51-60, 61 and over	20-30, 31-40
	Academic Degrees	Master	Bachelor, Master and Doctorate	Bachelor and Master
	Years in Current Position	More than 20	14 to more than 40	2 to 10
	Employer	The Art Institute of Philadelphia	The Art Institute of Philadelphia	Various, including Web development firms, educational institutions and Web-related divisions within larger corporations
	Current Position	Academic Director	Instructor, Assistant Professor, Associate Professor and Professor	Various industry-related positions, including: Director, Project Manager, Instructional Designer, Web Designer and Web Developer
	Previous Positions	Professor and audio engineer	Various industry-related positions, including: Director, Project Manager, Instructional Designer, Web Designer and Web Developer	Various industry-related positions, including: Project Manager, Instructional Designer, Web Designer and Web Developer

Figure 4.2: Participant Demographic Profile

Assumptions

It was assumed that the Art Institute of Philadelphia's Web Design and Interactive Media program director, faculty and advisory board would all participate in this evaluation program.

Program Activities

The program activities included a series of interviews and focus group discussions that were conducted with the evaluation participants. The aim of each session is to review the proposed curriculum, to assess its strengths and weaknesses and to collect data that will help shape the final draft of the proposed curriculum. The sessions followed a linear pattern, beginning with a focus group with the department's advisory board. The aim of this discussion was to gauge the regional industry's future demands and to evaluate the accuracy of the proposed curriculum. The second session was a focus group with the department's faculty. The goal of this session was to assess the proposed curriculum in light of the faculty's insights, pedagogy and personal research. The third session was an interview with the Web Design and Interactive Media program director. The primary focus of this interview was to determine if the proposed curriculum falls within the parameters of Art Institute's organizational, curriculum model for the Web Design and Interactive Media program. The fourth session focused on the aggregation and analysis of the data that was collected in each of the prior sessions. The fifth and final session sought to summarize the findings and generate recommendation in a formal report.

Program Outcomes

The program outcomes can be organized into short-term, medium-term and long-term outcomes. The short-term outcome is the determination of which of the

W3C-predicted Web 3.0 technologies the program director, the faculty and the advisory board deem applicable to the Art Institute of Philadelphia's Web Design and Interactive Media curriculum. This outcome was achieved with the preliminary topical model review discussed above in chapter 3. The medium-term outcome is the development of an approved curricular model for the Art Institute of Philadelphia's Web Design and Interactive Media program. The development of the curricular model was discussed at length in chapter 3. This chapter outlines the curricular model's formal evaluation process, and the final chapter discusses the recommendations for the model based on this evaluation. The approval of the model and the long-term outcome of implementing the revised curricula are not addressed in this document.

Human Subjects Review

A human subjects protocol was submitted to the University of Delaware's Human Subjects Review Board and was approved on November 18, 2011. All data collection activities were conducted in strict accordance with the guidelines and procedures outlined by the university and review board.

Formative Evaluation Questions

Formative Evaluation Questions

This evaluation was designed to address three specific questions, one process related and two outcome related. The process related question was:

- *Was there a consensus between the program's faculty, director and advisory board regarding the proposed curricula?*

The outcome related questions were:

- *Were the proposed courses deemed applicable to the Art Institute of Philadelphia's Web Design and Interactive Media curricula by the program director, the faculty and the advisory board?*
- *Was the sequencing of proposed courses appropriate for the Art Institute of Philadelphia's Web Design and Interactive Media bachelor's and associate's degree programs?*

Variables and Instruments

Overview

The participant context data was collected via the *biographical information survey* (See Appendix A – Biographical Information Survey). The evaluation questions were addressed via a common *interview protocol,* which was used for the interview and the focus group sessions (See Appendix B – Interview Protocol). An identical survey instrument was created as a precautionary measure; however, it was not utilized in the evaluation, as the desired number of participants was available for each of the face-to-face sessions (See Appendix C – Survey).

The interview protocol focused on the following four topical areas:

- ***Participant context –*** *which sought to collect data on the individual's academic preparation, technical expertise, professional responsibilities and involvement with the program's curriculum*
- ***Participant reflections on the courses in the proposed curricula –*** *this section sought to better understand the participants' views and collect suggestions concerning the proposed courses within the revised curricula*

- ***Participant reflections on the sequencing of courses in the proposed curricula*** – *this portion of the instrument endeavored to gather participants' thoughts and recommendations regarding the order and placement of courses within the proposed curricula*
- ***Participant reflections on the proposed curricula*** – *this segment worked to uncover participants' beliefs regarding the proposed curricula from their own unique vantage point*

Data Collection Procedures

Instrument and Notification

The data collection instrument used in this evaluation incorporated qualitative measures to ensure that this investigation views the situation from each stakeholder's perspective and collects as much meaningful feedback as possible. All participants were notified of the purpose of this study, its procedures, the requirements of participation, its benefits and risks as well as how their information was used and protected.

Program Advisory Board Group Interview

The program advisory board's insights were collected through a face-to-face, group interview that was recorded via a digital audio recording device for later cleaning, coding and analysis. The group interview included seven members of the board.

Program Faculty Group Interview

The program faculty's feedback was collected through a face-to-face, group interview that was recorded, via a digital audio recording device, for later cleaning, coding and analysis. The group interview included all six of the program's fulltime faculty members.

Program Director Interview

The program director's reflections were collected through a face-to-face interview that was recorded, via a digital audio recording device, for later cleaning, coding and analysis.

Data Analysis Procedures

A collaborative social research approach was utilized for the analysis of the data collected in this study. As described by Berg, this method allows researchers to "work with their subjects in a given setting in order to accomplish some sort of change or action" (Berg, 2009, p. 340). This process began with the processing of the audio recording from the various interviews. To ensure that the data was as friendly to analysis as possible, the clips were cleaned of off-topic discussion. The audio captured was then segmented into clips representing the individual questions and the corresponding participant responses. The clips were then imported into a *Bento* database for further analysis. Filemaker's *Bento* database application was chosen for its compatibility with various forms of media, including audio files. The questions comprised the cases of the dataset, and the responses captured for each of the individual questions constituted the variables of the dataset. The data was then coded to summarize the primary assertions of each collected responses. In the cleaned dataset, the multipart questions were broken up into their corresponding elements to provide for easier and more reliable analysis (Figure 4.3: Bento Database).

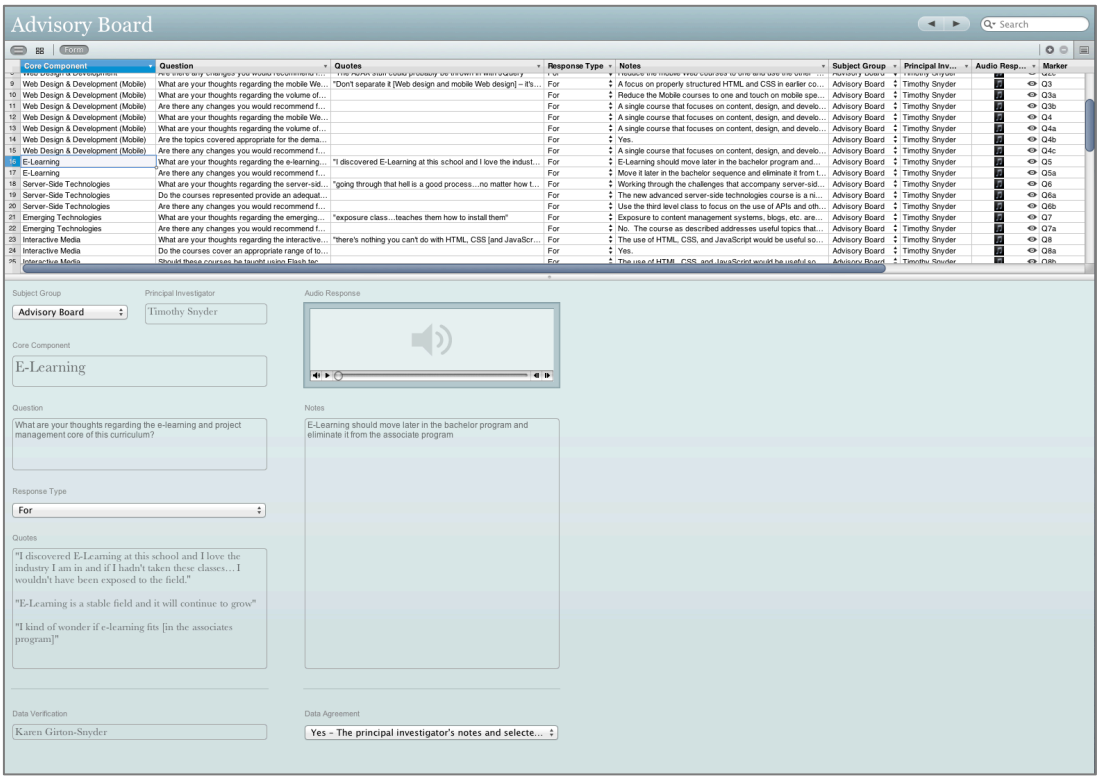

Figure 4.3: Bento Database

Once the cleaned dataset was assembled, a grounded theoretical approach was employed to derive coding categories "directly and inductively from the raw data itself" (Berg, 2009, p. 340). This phase began with a thorough review of the dataset, including the replay of each of the sorted audio files. This process pursued answers to the evaluation questions posed earlier in this document:

- *Was there a consensus between the program's faculty, director and advisory board regarding the proposed curricula?*
- *Were the proposed courses deemed applicable to the Art Institute of Philadelphia's Web Design and Interactive Media's curricula by the program director, the faculty and the advisory board?*

- *Was the sequencing of proposed courses appropriate for the Art Institute of Philadelphia's Web Design and Interactive Media bachelor's and associate's degree programs?*

A cutting and sorting strategy was utilized to identify themes within the dataset. As described by Ryan and Bernard in their paper "Techniques to Identify Themes in Qualitative Data," this methodology begins with an identification of important quotes, noting whom the quote is from and the context with which it originated. Then the identified quotes are organized into groupings based on similarity. These groupings represented the themes within the data (Ryan & Bernard, 2003). This step sought to uncover correlations between the participants' responses to these questions and to determine if a consensus had been reached among the three parties involved in the evaluation. Furthermore, it hoped to reveal any pertinent suggestions regarding the curricula, the courses or the proposed sequencing of both the associate's and bachelor's degree curriculum designs.

To ensure the accuracy of the dataset, the coded response summaries generated by the primary investigator were independently corroborated by a third-party reviewer. The audio files and other data reviewed by the third-party reviewer were cleaned of any personal data to protect the confidentiality of the participants.

Formative Evaluation Timeline

Formative Evaluation Timeline Specifics

The advisory board group interview was conducted during a previously scheduled meeting on November 18, 2010. To ensure that all faculty members took part in the evaluation and to collect a complete and comparable dataset from them, a

group interview was conducted on December 21, 2010 during a scheduled department meeting. The program director's interview took place on December 22, 2010. Each of these sessions included a data collection cycle followed by a data cleaning and coding process. The data aggregation and analysis session occurred over a six week period, beginning on January 1, 2011 and concluding on February 11, 2011. The evaluation reporting phase began February 11, 2011 and concluded on September 30, 2011. The final preparation for the executive position paper defense began on October 1, 2011 and ended on November 11, 2011. The defense of the executive position paper took place on March 27, 2012.

Figure 4.4 presents a graphical timeline illustrating the key milestones of the evaluation process.

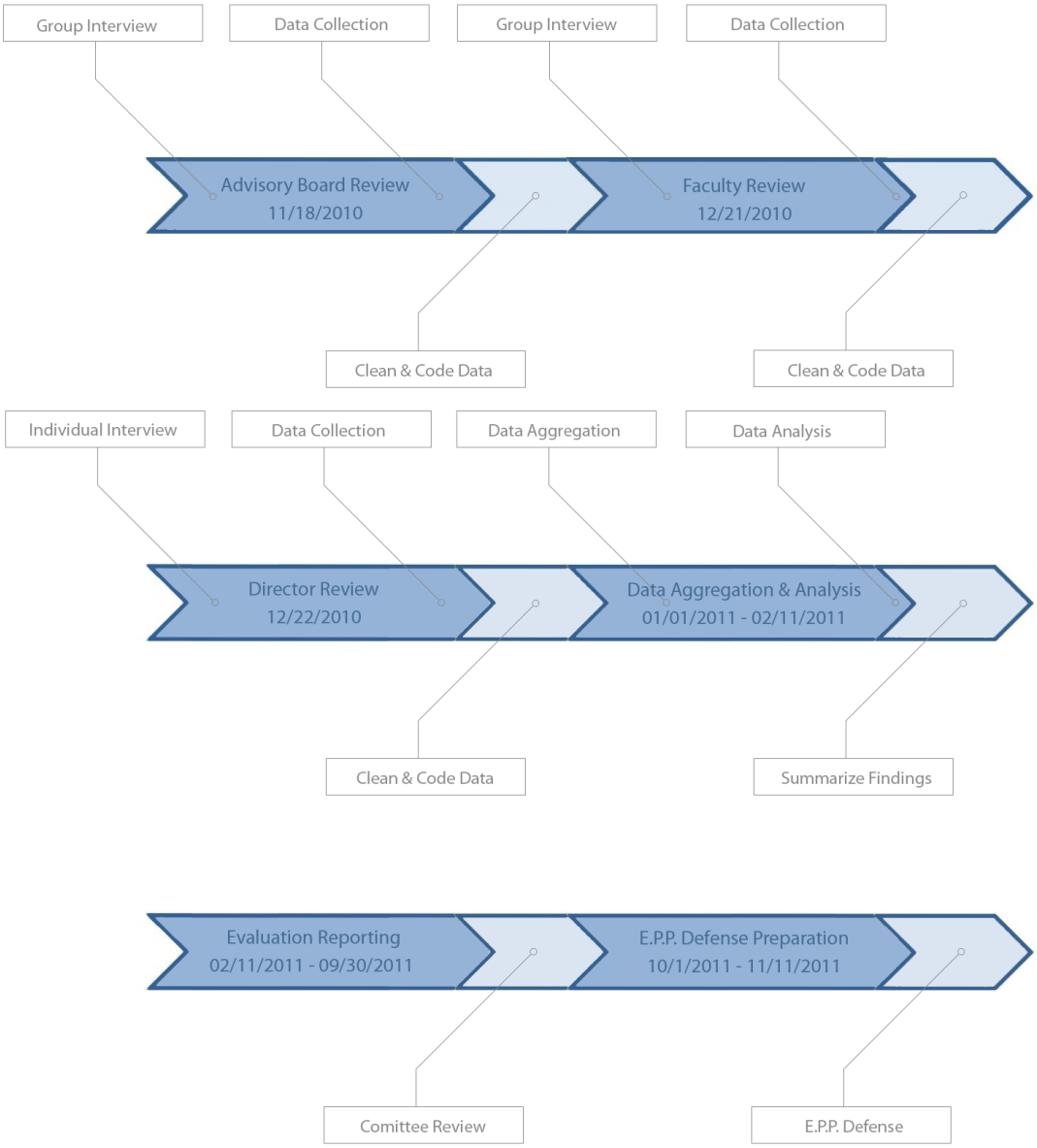

Figure 4.4: Formative Evaluation Timeline

Formative Evaluation Results

Overview

The goal of this evaluation was to assess the proposed curricular models for the Web Design and Interactive Media bachelor and associate's degree programs at the Art Institute of Philadelphia. The effort also sought to provide a better understanding of the complexities of implementing these curricula at the local level.

To ensure that the proposed curricula were scrutinized from a variety of perspectives, the curricula were divided into topical cores that represented the various disciplines of study covered in each curriculum. Each topical core was explored from both a content and sequencing perspective. Questions relating to the general education core were not included in this evaluation, as they do not fall under the purview of the groups interviewed. Furthermore, each of the curricula was examined individually, as an educational unit, and as part of the functional pair of degree programs.

Several key themes appeared during the analysis of the data. The data analysis revealed a consensus among the program's faculty, advisory board, and director regarding the proposed curricula. They were supportive of the proposed curricula for both the associate's and bachelor's degree programs. As a collective, they believed that the courses chosen for both degree programs were appropriate for the student body as well as the demands of the region's industry. They also agreed that the proposed models offered significant distinctions between the associate's and bachelor's degree programs while still allowing students to transition between programs with ease. The sequences of courses within both curricula were also believed to be successful; however, several worthwhile sequencing recommendations were made that were thought by all to improve both curricular models. A suggestion to

eliminate one of the two proposed mobile Web courses was also widely supported by all three groups. The following sections detail the recommendations made during the interviews regarding each of the course cores as well as the curricula as a whole.

Design Core Results

The design cores of both proposed curricula began with foundational courses in drawing, design and color theory. The second-level courses introduce the students to digital design, typography and illustration. The third-level courses expand on the second-level courses and introduce interactive design concepts.

The following question was posed to the faculty, advisory board members and academic director regarding the proposed curricula's design cores:

- *What are your thoughts regarding the design core of this curriculum?*

The interviews revealed that the program's faculty, advisory board, and director were generally supportive of the proposed design core and its sequence for both the associate's and bachelor's degree programs. Each group provided unique insights on the courses that made up this core and had worthwhile recommendations for minor sequencing changes that further refined the core. Several faculty members were in support of adding another raster-based design course to the core to allow for more in-depth coverage of the software application, Adobe Photoshop. One faculty member noted, "It's almost like we need another whole class in Photoshop." This individual went on to exclaim, "it's almost impossible to cover…" everything in the tool in just two courses. However, the advisory board, Academic Director and other faculty members were not in favor of expanding the design core further. Although there was some debate amongst advisory board members regarding the value of a separate typography course in the curricula, all supported one member's statement that

""typography is extremely valuable whether you're a designer or not." Members of the advisory board were in favor of making the design core courses more targeted to Web design topics; however, the academic director and faculty interviews noted that specialization of general design courses contradicts the standing Art Institute ethos of shared courses across many curricula, rendering this assertion moot. A counter proposal to explore various platforms, such as mobile Web, browser and application interface design in the *Designing for Interactivity* course was widely supported by all groups. Lastly, there was some debate over the nature of the *Designing for Interactivity* course. As proposed the course falls early in both the bachelor's and associate's degree sequences with the goal of introducing fundamental interface design concepts as well as foundational user experience design theory. One faculty member preferred the existing approach, stating "designing for interactive media, that we do now, here's the one problem with having it that early – the theory behind the class is they already know how to do the coding and here's the aesthetic side of it." This argument was widely opposed by the rest of the faculty, the advisory board and the academic director. Although all three groups agreed to the benefits of the current model, they all believed that the course as proposed is more beneficial to the students understanding usable and accessible interface design and that by introducing these topics earlier in the curricula, it provides a much needed foundation for other user-experience design courses that follow later in the sequence. In regard to sequencing of courses, all groups agreed that it was beneficial to move the *Designing for Interactivity* course into the second quarter, thereby making room for a more logical, sequential progression for the vector-based *Digital Typography* and *Digital Illustration* courses. This alteration would also address a concern voiced during the

academic director's interview regarding an overload of software-based courses in the proposed second quarter.

Web Design and Development Core Results

The Web design and development "cores" are intrinsically connected to each other and follow a specific progression. The Web design core of this curriculum begins with foundational courses in HTML and CSS. The second-level courses introduce the students to the intricacies of mobile Web design. The third-level course explores HTML 5 and CSS 3 standards while incorporating more complex scripting strategies into the design of dynamic websites. Coinciding with the Web design core is the Web development core. The first course of the Web development core introduces the learners to the JavaScript scripting language, while also exploring fundamental programming concepts and practices. The second course expands the students' knowledge of JavaScript and introduces DHTML. The third course introduces the jQuery JavaScript libraries and explores their practical uses. Lastly, the fourth course in the sequence explores AJAX and its use in dynamic Websites.

The following question was posed to the faculty, advisory board members and academic director regarding the proposed curricula's Web design and development cores:

- *What are your thoughts regarding the Web design and development core of this curriculum?*

The program's faculty, advisory board, and director were very supportive of the proposed Web design and development cores for both the associate's and bachelor's degree programs. All parties appreciated the core's focus on standards-based HTML, CSS and JavaScript technologies. The addition of a course that focused

on emerging trends, such as HTML 5 and CSS 3, was believed to be essential by all. The program's academic director commented that the inclusion of HTML 5 and CSS 3 are "critical because we anticipate [it] and it's coming and when it's here we need to be ready for it." The director also went on to state, "we can't design a new curriculum that doesn't address it [HTML 5 and CSS3]." The faculty and advisory board also concurred about the addition of HTML5 and CSS3 topics to the curricula. One advisory board member noted, "I think it has [HTML 5 and CSS 3] got to be taught – by the time these kids get out into the real world that will be the standard."

The sequencing adjustments between the Web development and scripting courses were praised by all groups. An advisory board member commented "that block right there [the Web Design & Development Core Courses] is awesome because that progression of intro to basic fundamental client-side technology and client-side scripting and then progressing at the same level at the same time, I think it's great." Another advisory member noted that the proposed sequence builds upon a solid foundation and deftly adds advanced topics layer by layer.

The use of JavaScript as the functional language for the proposed *Programming Foundation* course was praised in both the faculty and advisory board interviews. There was some minor debate over the necessity of two separate courses for AJAX and JQuery topics in the advisory board interview as these topics are closely related. One member noted, "the AJAX stuff could probably be thrown in with JQuery." However, it was quickly pointed out that the additional course could explore "the applications side of things…[the course could focus on building] something amazing with the library in some type of application form." The inclusion of courses that focus on mobile Web design and development was also widely praised. When

discussing the topic of mobile Web design in the curricula, the academic director for the program exclaimed, "I am for it" and that "we probably will see it move more in that direction." The advisory board as a whole was supportive of the inclusion of mobile Web design topics throughout the curricula and believed that offering a single, standalone course offered a great deal of merit; however, they did not believe the topic warranted two classes, as proposed, because the added focus on standards-based HTML and CSS in the rest of the curricula addresses many of the issues regarding the development of sites for mobile devices. One member noted, "don't separate it [Web design and mobile Web design] – it's HTML, this is a Website, this is what it looks like sitting at their desk, this is what it looks like on their iPad." Another remarked, "it has to be integrated through all of the classes, not just one class." The faculty interview generated similar concerns and assertions. In the end, all parties agreed that a single course focusing on the design-related issues that accompany mobile sites would be the best fit for both the associate and bachelor's curricula.

E-Learning and Project Management Core Results

The e-learning and project management core explores the discipline of instructional design, while introducing the students to learner-centric, design and development strategies. The sequence culminates with the "Project Management" course in which students are organized in teams and compete to "win" an RFP bid.

The following question was posed to the faculty, advisory board members and academic director regarding the proposed curricula's e-learning and project management cores:

- *What are your thoughts regarding the e-learning and project management core of this curriculum?*

The interviews revealed a consensus regarding the benefits of the *Project Management* course in both curricula. The course was praised in all three interviews for the real world challenges that it offers students and for fostering skills necessary for success in team environments. The e-learning courses offered more debate and discord amongst all groups. The program's academic director was a staunch supporter of the courses and touted their inclusion, in one form or another, in the curricula since the inception of the Web Design and Interactive Media degree programs. One member of the advisory board exclaimed, "I discovered E-Learning at this school [The Art Institute of Philadelphia] and I love the industry I am in and if I hadn't taken these classes…" I would not have been exposed to the field. The same member went on to say, "E-Learning is a stable field and it will continue to grow."

The rest of the advisory board tended to be more pragmatic about the courses and a show of hands quickly indicated that only a single member present was active in this segment of the industry. One participant noted that "I kind of wonder if e-learning fits [in the associate's program]" and that if at all it should be in the bachelor's program only. The faculty were similarly divided. Although they believed that the courses offered benefits that stretched beyond the particular industry segment, there was debate regarding the appropriateness of the courses for both the associate's and bachelor's degree programs. A faculty member noted, "[moving e-learning to the third year] makes sense to me." Overall, the suggestion to move the more specialized e-learning courses out of the associate's program and into the later portion of the bachelor's curriculum garnered support in all three interviews. This compromise was believed by all to best align with the intended goals of each degree program and with the employment outcomes of graduates from each program.

Server-Side Technologies Core Results

The server-side technologies core explores PHP and MySQL as well as the development of database-driven Websites. The third course in the sequence introduces students to semantic Web technologies and concepts.

The following question was posed to the faculty, advisory board members and academic director regarding the proposed curricula's server-side technologies cores:

- *What are your thoughts regarding the server-side technologies core of this curriculum?*

The interviews revealed that the program's faculty, advisory board, and director were supportive of the proposed server-side technologies cores for both the associate's and bachelor's degree programs. The advisory board noted that the learning challenges that students encounter in the first two courses are invaluable later in their careers. Regarding these challenges one board member stated that "going through that hell is a good process…no matter how they have to get that thing to run – is a good learning experience." Another member added "it's going to separate whether they want to do server side or not." Board members also appreciated the proposed advanced course that would explore emerging topics, such as semantic web technologies. They also believed that this course would allow students to explore peripheral technologies that might lead to worthwhile self-directed study topics later in the curriculum. One member offered the recommendation to include additional topics, such as API (Application Programmer Interface) and other advanced techniques into the course as well. The faculty and academic director interviews offered similar conclusions, although it was noted in both interviews that the technologies proposed in the advanced course represent topics outside of the current faculty's expertise, and it

would require additional time to prepare or might warrant the infusion of new faculty into the department.

Emerging Technologies Core Results

The emerging technologies course introduces the students to new and emerging technologies that might not warrant a separate, "stand-alone" course, but are important to their professional growth and understanding of the industry.

The following question was posed to the faculty, advisory board members and academic director regarding the proposed curricula's emerging technologies cores:

- *What are your thoughts regarding the emerging technologies core of this curriculum?*

The proposed *Emerging Technologies* course was widely accepted by all three groups. They all believed the course's exploration of content management systems, social network technologies and other emerging technologies was critical to the students' understanding of the medium and to their success moving forward in the field. An advisory board member noted that this was an "exposure class…teaches them how to [use and] install [emerging technologies]" and another member added that "later classes can [teach them to] build their own plugins and API calls" for these technologies.

Interactive Media Core Results

The interactive media core includes three separate courses that explore different aspects of interactive media. The first level course explores various forms of interactivity, animation and motion graphics. The second course advances on this foundation with the addition of scripting and more complex code-driven animations.

The final course in the sequence examines the creation of rich Internet applications and mobile applications.

The following question was posed to the faculty, advisory board members and academic director regarding the proposed curricula's interactive media cores:

- *What are your thoughts regarding the interactive media core of this curriculum?*

All parties involved believed that the interactive media core was an essential component to the bachelor's degree curriculum. There was also a strong consensus regarding the topics of the three courses proposed. However, the discussions over the tools and/or scripting languages used to present the courses in this core were hotly contested. An advisory board member asserted that "there's nothing you can't do with HTML, CSS [and JavaScript] that you can do with [Flash and] Adobe Air technologies." In both the faculty and advisory board interviews Adobe Flash had a single, staunch supporter. One faculty member noted ""I think that the functionality of Flash [makes it worth keeping]…I wouldn't count it out," while another countered "we have to be as realistic as possible [technologies change]." The majority of both groups agreed that Flash might not be the best platform for these courses in the near future as the standards-based combination of HTML 5, CSS 3 and JavaScript move to the forefront. Several advisory board members also raised the point that the use of a standards-based approach would make the products generated more compatible across a range of platforms and devices. One participant noted, "you would cover more platforms if you stick to regular [standards based] Web technologies." Given the current faculty's familiarity with the Flash platform, the program's academic director had a more practical view believing that a Flash-based

approach would be the best in the near term, but a standards-based approach might be the best long-term solution for the core.

User Experience Design Core Results

The user experience design core examines the discipline from three distinct perspectives. The first course examines the concepts and practices of user experience design. The second course explores the field of usability testing and its role in the creation of user-centric environments. The final course examines accessible Web design, multicultural Web design and internationalization strategies.

The following question was posed to the faculty, advisory board members and academic director regarding the proposed curricula's user experience design cores:

- *What are your thoughts regarding the user experience design core of this curriculum?*

The discussions regarding the user-experience design core proved to be the most transformative for both the associate and bachelor's curricula. Early in the advisory board interview, one member noted, "user-experience is more fundamental – where e-learning is more specific… you take what you learned from user-experience…and apply that…as a foundation to e-learning." These comments led to a proposal to move the e-learning courses out of the associate's curriculum, which was designed to be more of a generalist preparation for entry-level, front-end designer positions and into the third year of the bachelor's curriculum. This suggestion fell directly in line with the goals of each degree program and provided an opening to introduce the more foundational *User Experience Design* and *Usability Testing* courses into the associate's curriculum as well as bringing them earlier in the bachelor's curriculum.

This recommendation also aligned nicely with the apprenticeship model that framed the curricular revisions. The earliest course, *Designing for Interactivity*, provided the apprentice's foundational understanding of key concepts and techniques, while the mid-level *User Experience Design* and *Usability Testing* courses tested the journeyman's knowledge of the concepts and challenged them to apply them in real world scenarios. Lastly, the *E-Learning Design* and *E-Learning Development* courses challenged the mastery of the third-year students as they apply the concepts they have learned in specialized and novel environments. The importance of the *Usability Testing* course was also discussed at length in the advisory board interview. One member stated there is "nothing more alarming than watching someone try to use an interface that someone thought was genius and innovative." The same member went on to posit that the exposure to real-world testing is essential to a designer's understanding of usability. The group shared this point of view and several others went on to discuss the importance of usability testing in their organizations. The faculty and academic director were less fervent about removing the e-learning courses from the associate's curriculum; however, after a great deal of discussion and debate all agreed that moving the e-learning courses into the third year of the bachelor's curriculum and out of the associate's curriculum was the appropriate choice and best aligned with the goals of each program.

Media Technologies Core Results

The media technologies core explores the creation, manipulation and delivery of media in various forms, including photographic imagery, video and audio.

The following question was posed to the faculty, advisory board members and academic director regarding the proposed curricula's media technologies core:

- *What are your thoughts regarding the media technologies core of this curriculum?*

The proposed media technologies core differs greatly from the current curricular model, which includes two dedicated audio courses, video and editing electives as well as a separate course in streaming media. The program's director stated that "in many ways [this represents] the biggest change to this curricula." The proposed curricula also represent a significant shift away from a creation-centric model to a utilization and optimization focused approach. This paradigm change was difficult to accept for the academic director, whose own professional career began as an audio engineer and music producer. The art-centered members of the faculty also echoed this concern. One faculty member stated that "this probably makes a whole lot of sense…but as an aesthetics guy…this is a cultural thing…you can't cover [these topics] in depth [in so few classes]." This individual believed that the current focus on content creation offered artistic merit beyond the development of technical competencies; however, he also went on to say, "let's do what's practical…and this is practical." An alternative view was raised in the advisory board interview, which promoted a more utilization and optimization focused approach to the courses in this core. One member noted that topics relating to asset optimization would be worthwhile additions to these courses. The advisory board was quick to note that graduates of this program are not the ones who generate content – they are the ones who implement content generated by others. The program director also commented, "[our graduates] are almost never asked to create content." This distinction was raised in the faculty interview as well. All parties agreed that there was artistic merit to the generation of content in various forms; however, pragmatism won out in the end, with

all three groups agreeing that a utilization and optimization focused model was ultimately most appropriate for the graduates of program.

Professional Practice and Internship Core Results

The professional practice and internship core introduces the student to the realities of working in a team-based environment. The professional practice course introduces the students to the rigor of team-based projects for "real world" clients within the structure and confines of the classroom. The internship expands on this experience by placing students in business environments with industry professionals to mentor their progress.

The following question was posed to the faculty, advisory board members and academic director regarding the proposed curricula's professional practice and internship core:

- *What are your thoughts regarding the professional practice and internship core of this curriculum?*

Due to time constraints, in each of the interviews, and the fact that this core does not include any notable changes from the current curricula, this topic was not discussed at length in any of the interviews. The program's faculty, advisory board, and director were supportive of the proposed professional practice and internship cores for both the associate's and bachelor's degree programs. In both the advisory board and faculty interviews, individuals were quick to highlight the benefits that these classes offer the students. The academic director also praised that the current, and proposed, models provide students with opportunities to work with real world, not-for-profit organizations.

Senior Project and Self-Directed Learning Core Results

The senior project and self-directed learning core prepares students for the challenges of maintaining and enhancing their skills without the benefit of guided, classroom instruction. In the *Senior Research* and *Senior Project* courses, students identify, research, design and develop a project for implementation using advanced or emerging technologies. The self-directed learning course introduces the students to self-directed learning strategies and provides opportunities for students to advance their skill sets with new technologies.

The following question was posed to the faculty, advisory board members and academic director regarding the proposed curricula's senior project and self-directed learning cores:

- *What are your thoughts regarding the senior project and self-directed learning core of this curriculum?*

The additions and alterations to this core were some of the most touted in the proposed curricula. The interviews revealed that the program's faculty, advisory board, and director were very supportive of the proposed course recommendations and believed strongly in the self-directed nature of this core. An advisory board member praised "the abilities of these courses to specialize" in areas of individual interest. All three interviews generated individuals' recollections of how much of their specialized knowledge in the industry was gained through self-study and many exclaimed that they wish they had courses like this in their academic preparation. The academic director believed that the proposed approach would satisfy a wider range of student interests and eliminate the enrollment issues that plague the current program's elective courses. The self-directed nature of this core was widely praised as a way to allow students to specialize in areas of personal interest, while providing a structured and

guided environment. One faculty member exclaimed, "This is great – let them customize how they want to direct [their learning]." It was universally believed that the skills developed in this core were essential for graduates moving into the industry.

Portfolio Core Results

The portfolio core prepares the students for their impending job search with the preparation of a preliminary Web portfolio including a reduced subset of required projects in the first level course. The second course focuses on the finalization of the student's Web portfolio as well as the creation of the student's mobile Web portfolio.

The following question was posed to the faculty, advisory board members and academic director regarding the proposed curricula's portfolio cores:

- *What are your thoughts regarding the portfolio core of this curriculum?*

Due to time constraints, in each of the interviews, and the fact that this core includes only minor alterations from the current curricula, this topic was not discussed at length in any of the interviews. The program's faculty, advisory board, and director were supportive of the proposed portfolio cores for both the associate's and bachelor's degree programs. All three interviews generated positive remarks about the current curricula's portfolio core, and all agreed that the addition of a mobile Web component in the proposed curricula was a worthwhile supplement and that mobile presentations would be essential for professional portfolios in the future.

Curriculum Sequence Results

The following questions were posed to the faculty, advisory board members and academic director regarding the sequencing of both proposed curricula:

- *What are your thoughts regarding the sequence of the "cores" in this curriculum?*
- *What are your thoughts regarding the sequence of the courses in this curriculum?*

The discussions that took place regarding the proposed curricula sequence were some of the most constructive and beneficial of the interviews. The faculty, advisory board and academic director were all generally supportive of the proposed curricula and only recommended subtle alterations to a few of the cores to better refine and focus the curricula. A recommendation from the program's academic director to move the *Digital Typography* course to the third quarter reduced the number of software-centric courses in the second quarter and made room for the *Designing for Interactivity* course in the second quarter. The advisory board was also supportive of this design core change and believed that the early introduction to interface design fundamentals would greatly aid students as they entered the third quarter Web design and scripting courses. Both the faculty and advisory board recommended the elimination of one of the mobile Web design courses in the proposed curricula in favor of an additional HTML and CSS course. The groups believed that the competencies covered in the suggested HTML and CSS course could address the needs of mobile Web environments while delving deeper into topics for traditional contexts as well. The most significant recommendation of all came from a member of the advisory board who recommended that the *User Experience Design* and *Usability Testing* courses be moved forward in the bachelor's curriculum and added to the associate's curriculum. Furthermore, the member suggested that the *E-Learning Design* and *E-Learning Development* courses be eliminated from the associate's curriculum and moved to the third year of the bachelor's program. The member argued, "user-experience is more fundamental, where e-learning is more specific… you take what you learned from user-

experience…and apply that…as a foundation to e-learning." This assertion garnered a unanimous show of support from the members of the advisory board. This idea garnered support from both the faculty and academic director as well. It was believed that this revision best suited the curricula's apprenticeship model and that the more specialized e-learning courses were most appropriate for bachelor's students, while the more generalized *User Experience* and *Usability Testing* courses were well suited for associate's and bachelor's students alike.

General Questions Results

The following general questions were included in the interview protocol:

- *What are your thoughts regarding the topics covered in the proposed curriculum?*
- *What are your thoughts regarding the differences and similarities between the two curricular models?*
- *Are the proposed curricula appropriate for the student body?*
- *Do the proposed curricular models address the current and future demands of the region's industry?*
- *Do the proposed curricular models align with the Art Institute of Philadelphia's goals and objectives for student learning?*

Due to time constraints, in each of the interviews, and the overall length of the interview protocol, many of the general topic questions listed above were not formally posed. However, many of the topics covered were broached in other segments of the interviews, and conclusions can still be drawn regarding these topics.

The program's faculty, advisory board, and director were supportive of the proposed curricula for both the associate's and bachelor's degree programs. They collectively agreed that the curricula addressed topics pertinent to the region's industry

and the success of the program's graduates. The groups believed that the proposed curricula were appropriate for the student body and that they struck a good balance between design and development skill sets. All three interviews generated positive remarks about the distinctions between the associate and bachelor's curricula. The associate's curriculum was thought to be well suited for preparing graduates for front-end, entry-level, Web designer and developer positions. The more specialized bachelor's curriculum was believed to prepare students for mid-to-higher level design and development positions. Although the two curricula were believed to differ from one another, they were also thought to work nicely as a unified pair allowing students to easily transition between the two with very little loss of time or credits.

Chapter 5

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Summary

The analysis of the evaluation's data indicated that a few minor adjustments to the curricula would offer significant benefit for both programs. The recommendations fell into three primary categories: sequence change, topic change or the complete addition or subtraction of a course. The majority of recommendations for the associate's curriculum focused on the addition and subtraction of courses; however, two sequence changes and a topic change were recommended as well.

	SEQUENCE CHANGE	TOPIC CHANGE	ADDITION/SUBTRACTION
ASSOCIATE CURRICULUM	Designing for Interactivity	Advanced Web Design	User Experience Design (Addition)
	Digital Typography		Usability Testing (Addition)
			Mobile Web Design (Addition) Introduction to Mobile Web Design (Subtraction)
			Advanced Mobile Web Design (Subtraction)
			E-Learning Design (Subtraction)
			E-Learning Development (Subtraction)

Figure 5.1: Associate's Curriculum Recommended Changes

The recommendations for the bachelor's curriculum were primarily sequence related; however, there was a topic change as well as one addition and two subtractions.

BACHELOR CURRICULUM	SEQUENCE CHANGE	TOPIC CHANGE	ADDITION/SUBTRACTION
	Designing for Interactivity	Advanced Web Design	Mobile Web Design (Addition)
	Digital Typography User Experience Design		Introduction to Mobile Web Design (Subtraction) Advanced Mobile Web Design (Subtraction)
	Usability Testing		
	Accessible Web Design		
	Web Technologies and Systems		
	E-Learning Design		
	E-Learning Development		

Figure 5.2: Bachelor's Curriculum Recommended Changes

These alterations greatly influenced the effectiveness and applicability of the curricula for the region's industry. By condensing the proposed mobile Web courses into a single course, *Mobile Web Design,* valuable space was created in the bachelor's curriculum for a new *Emerging Technologies* course. The *Advanced Web Design* course, in the proposed curricula, was altered to allow for more detailed study in key areas, such as HTML, CSS and scripting languages, based on the feedback received in the interviews. The sequence alterations across both curricula yielded a dramatic improvement in regard to the transferability of associate's credits into the bachelor's program as well as in regard to the relationships between the various courses within a given academic quarter. Likewise, changes to the sequence of

courses, specifically the user-experience sequence and the e-learning sequence, allowed for further differentiation between the associate's and bachelor's programs while better preparing students for entry-level positions. The adjustments to sequencing also allowed for a greater degree of interconnectedness between design and development courses across the curriculum. The sequence modifications also provided a series of capstone courses that offered ideal curricular assessment opportunities across the curriculum.

The emphasis on user-centered design paradigms was expanded in the recommended curricular model. Its range now spans from the first to the last year of study and encompasses various applications from broad, in the case of the first year *User Experience Design* course, to the very specific, in the case of the *E-Learning Design* and *E-Learning Development* courses of the third year. An emphasis has also been placed on the topics of accessibility and internationalization with the second year course *Accessible Web Design*. This collection of courses explores the topic of user experience design from various perspectives and applications across the curriculum to ensure that graduates of the program will instinctively apply these paradigms in all of their design and development activities.

The data revealed that support for the proposed curriculum's self-directed learning components was unanimous. The interviews clearly illustrated the importance of preparing graduates for the demands of an ever-changing, professional marketplace. The incorporation of this theme in the *Self-Directed Learning* course as well as with the *Senior Project Research* and *Senior Project Development* courses was also well received.

The incorporation of traditional, apprenticeship themes in the revisions to the curriculum proved to be extremely successful in all of the interview sessions as well (Figure 5.3: Recommended Bachelor's Degree Curriculum Progression).

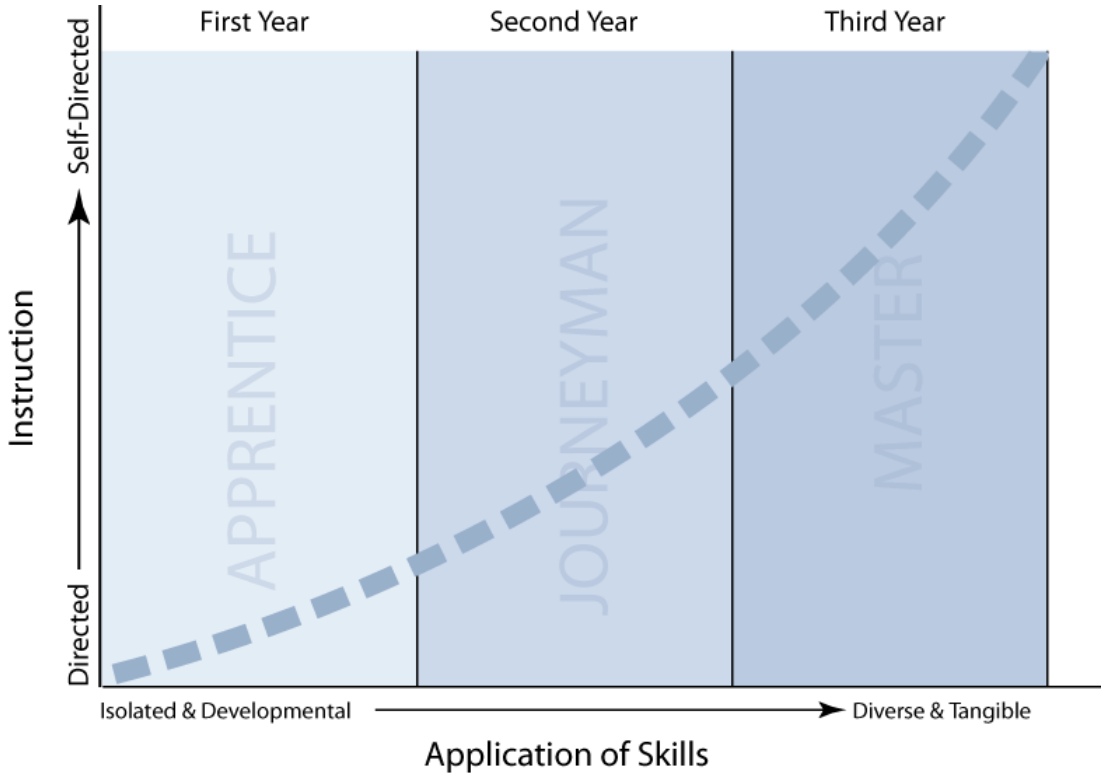

Figure 5.3: Recommended Bachelor's Degree Curriculum Progression

This progression was believed to maximize student engagement and satisfaction while providing students with the skills necessary to continue their professional development once they have left the confines of academia and are engaged professionally in the industry. This coupled with the development of specialized skills and knowledge, during the *master* phase of the progression, was

thought to better prepare graduates for higher-level positions within the industry and further differentiated the associate's and bachelor's degree programs.

Curricula Recommendations

Bachelor's Program Curriculum Recommendations

The evaluation findings guided the final adjustments to the bachelor's program curricular model that resulted in the Recommended Bachelor's Degree Coursework presented below (Figure 5.4: Recommended Bachelor's Degree Coursework).

QTR 1	Fundamentals of Drawing D	Fundamentals of Design D	Color Theory D	Computer Science G	English Composition I G
QTR 2	Designing for Interactivity CHANGE U	Digital Illustration D	Introduction to Digital Design D	College Math G	English Composition II G
QTR 3	Introduction to Web Design W	Digital Typography CHANGE D	Advanced to Digital Design D	Introduction to Geometry G	Art History: Baroque to Contemporary G
QTR 4	Intermediate Web Design W	Programming Foundations J	User Experience Design CHANGE U	Effective Speaking G	History of Motion Media & Mass Communications G
QTR 5	Advanced Web Design CHANGE W	Introduction to Scripting Languages J	Usability Testing CHANGE U	Physics G	Ethics G
QTR 6	Mobile Web Design CHANGE W	Intermediate Scripting Languages J	Project Management P	General Education Elective G	Business Law G
QTR 7	Emerging Technologies CHANGE W	Advanced Scripting Languages J	Accessible Web Design CHANGE U	Aesthetics G	U.S. History G
QTR 8	Introduction to Server-Side Technologies V	Introduction to Interactive Media I	Web Technologies & Systems CHANGE V	General Education Elective G	Western Civilization G
QTR 9	Intermediate Server-Side Technologies V	Intermediate Interactive Media I	E-Learning Design CHANGE U	Introduction to Media Technologies M	Theories of Communication G
QTR 10	Advanced Server-Side Technologies V	Advanced Interactive Media I	E-Learning Production CHANGE U	Advanced Media Technologies M	Logic G
QTR 11	Digital Portfolio I P	Professional Practice P	Senior Project Research S	Self-Directed Learning S	General Education Elective G
QTR 12	Digital Portfolio II P	Internship P	Senior Project Development S	General Education Elective G	General Education Elective G

KEY				
Design D	Interactive Media I	JavaScript Technologies J	Media Technologies M	Professional Practice P
Self-Directed Learning S	User-Centered Design U	Server-Side Technologies V	Web Design W	General Education G

Figure 5.4: Recommended Bachelor's Degree Coursework

Bachelor's Program First Year Curriculum Recommendations

The first year's emphasis on fundamental principles of design and development was praised in all of the interview sessions. The concentration of design courses, earlier in the curriculum, was believed to provide the background necessary for students to succeed in user experience and development-related courses later in the curriculum. A reordering of the user-centered courses brings the *User Experience Design* course into the first year of study. This sequence change introduces essential user experience design principles earlier in the curriculum and allows the more specialized *E-Learning Design* and *E-Learning Development* courses to be moved to the third year, which better aligns with the apprenticeship model and further differentiates between the associate's and bachelor's degree programs.

The second quarter's sequence of courses has been modified to allow for a better progression within the *Adobe Illustrator*-based courses, *Digital Illustration* and *Digital Typography,* and to make way for the first-level user-centered design course, *Designing for Interactivity*. *Designing for Interactivity* was moved to the second quarter to better prepare students for the third quarter *Introduction to Web Design* course, which is their first foray into functional Web-based products. Much like the second quarter, the third quarter's sequence of courses is modified to allow for a better progression within the *Adobe Illustrator*-based courses and to make room for the first-level, *Digital Illustration* course. The fourth quarter's sequence of courses is modified to introduce the second-level user-centered design course, *User Experience Design,* in the first year, while the more specialized *E-Learning Design* is moved to the third year of the curriculum to further differentiate between the bachelor's and associate's programs and to better fit with the apprenticeship model.

Bachelor's Program Second Year Curriculum Recommendations

The second year of study saw the most revision from the proposed model. The evaluation findings revealed that two mobile Web design courses were not required in the curriculum, at this time, and that the students would be better served by the addition of a third-level, Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) course. This led to the creation of a new course, *Mobile Web Design,* and to the elimination of the proposed courses, *Introduction to Mobile Web Design* and *Advanced Mobile Web Design,* from the curriculum. A new Web design course, *Emerging Technologies*, was created to address the Hypertext Markup Language 5 (HTML5) and Cascading Style Sheets 3 (CSS3) competencies previously covered in the proposed *Advanced Web Design* course. The recommended *Advanced Web Design* course eschews emerging topics for the inclusion of advanced topics relating to current Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) technologies. Furthermore, this change offered better integration between the Web design sequence of courses and the coinciding programming and user-centered design courses.

The recommended curriculum further emphasizes the various User-Centered Design paradigms by offering a more structured sequence to the courses in this segment. The first year courses, *Designing for Interactivity* and *User Experience Design,* introduce the students to the fundamental principles of a User-Centered Design approach. These courses focus on the usability of sites targeted for large, diverse audiences. The second year courses, *Usability Testing* and *Accessible Web Design,* narrow the focus to address the accessibility of sites for audiences facing barriers to access, such as language or impairment, and offer strategies to evaluate the efficacy of a given design or development solution. The third year *E-Learning Design*

and *E-Learning Development,* courses further narrow the focus by targeting specific demographic groups.

Usability Testing is moved into the fifth quarter of study, while *E-Learning Production* was pushed to the third year. A revised, *Advanced Web Design* course is also added. A new course, *Mobile Web Design,* moves to the sixth quarter. The seventh quarter of study received many alterations to address the concerns uncovered in the evaluation. A new Web design course, *Emerging Technologies*, was added and *Accessible Web Design* is moved forward in the sequence to better coordinate with related, second year courses and to make room for the relocation of the E-Learning courses in the third year. The survey course, *Web Technologies and Systems*, is moved to the eighth quarter to address sequencing issues in other quarters and to better align with other courses in Server-Side Technologies.

Bachelor's Program Third Year Curriculum Recommendations

The third, and final, year of study is split between traditional, direct instruction and self-directed learning. The self-directed learning courses aim to prepare students for the rigors of the industry as well as provide them with tools for lifelong learning.

Much like a master of a trade, third year students are expected to demonstrate mastery of their craft through the design and development of novel products and in the creation of a portfolio demonstrating their body of work. To mark this transition from student/apprentice to professional/master, the students work with real world clients and are encouraged to define their own areas of specialization within the field.

Most of the recommended ninth quarter courses carry over unchanged from the proposed curriculum. However, *E-Learning Design* replaces the *Usability Testing* course in the third year sequence to allow for more specialization within the bachelor's curriculum and to move the *User-Centered Design* and *Usability Testing* courses earlier in the sequence so that they are available in the associate's curriculum as well. The recommended tenth quarter courses carry over unchanged from the proposed curriculum. However, *E-Learning Production now* replaces the proposed *Accessible Web Design* course to allow for more specialization within the bachelor's curriculum and to move the *Accessible Web Design* course earlier in the bachelor's sequence. The recommended eleventh quarter courses carry over unchanged from the proposed curriculum. The recommended twelfth quarter courses carry over unchanged from the proposed curriculum.

Associate's Program Curriculum Recommendations

Figure 5.5 illustrates a series of adjustments to the associate's curriculum that were guided by the evaluation results.

QTR 1	Fundamentals of Drawing D	Fundamentals of Design D	Color Theory D	Computer Science G	English Composition I G
QTR 2	Designing for Interactivity CHANGE U	Digital Illustration D	Introduction to Digital Design D	College Math G	English Composition II G
QTR 3	Introduction to Web Design W	Digital Typography CHANGE D	Advanced to Digital Design D	Introduction to Geometry G	Art History: Baroque to Contemporary G
QTR 4	Intermediate Web Design W	Programming Foundations J	User Experience Design CHANGE U	Effective Speaking G	History of Motion Media & Mass Communications G
QTR 5	Advanced Web Design CHANGE W	Introduction to Scripting Languages J	Usability Testing CHANGE U	Digital Portfolio I P	Ethics G
QTR 6	Mobile Web Design CHANGE W	Internship P	Project Management P	Digital Portfolio II P	Business Law G
KEY	Design D	Interactive Media I	JavaScript Technologies J	Media Technologies M	Professional Practice P
	Self-Directed Learning S	User-Centered Design U	Server-Side Technologies V	Web Design W	General Education G

Figure 5.5: Recommended Associate's Degree Coursework

Associate's Program First Year Curriculum Recommendations

The first year's emphasis on fundamental principles of design and development was praised in all of the interview sessions. The concentration of design courses, earlier in the curriculum, was believed to provide the background necessary for students to succeed in the user experience and development-related courses later in

the curriculum. The *User Experience Design* and *Usability Testing* courses have been introduced into the recommended associate's curriculum to provide a more rounded user-centered design focus for the students. This change eliminates the more specialized *E-Learning Design* and *E-Learning Development* courses, which were thought to be inappropriate for the goals of the associate's program.

The changes to the second and third quarters are the same as those described with the bachelor's curriculum. The fourth quarter's sequence of courses is modified to introduce the second-level user-centered design course, *User Experience Design,* in the first year, while the more specialized *E-Learning Design* is eliminated from the associate's curriculum to further differentiate between the bachelor's and associate's programs.

Associate's Program Second Year Curriculum Recommendations

The second year of the associate's program introduces two new courses, *Mobile Web Design* and *Usability Testing,* as well as modification to the *Advanced Web Design* course. *Mobile Web Design* is a new title that replaces *Introduction to Mobile Web Design* and *Advanced Mobile Web Design,* which were eliminated from the curriculum.

Faculty Recommendations

Faculty Development

The Art Institute of Philadelphia's current Web Design and Interactive Media faculty adroitly deliver the current curricula; however, they will need to enhance their knowledge and skills to deliver the proposed curricula. Likewise, the demands of the proposed curricula may require the infusion of new faculty members to rollout the revised curricular models in a timely fashion. The following passages describe the areas of each core that may require additional preparation on the part of the current faculty or may require new faculty hires to address particular areas of expertise.

Design Core

Given the nominal changes to the bachelor's and associate's design cores, it is believed that very little faculty development time will be required to implement the proposed design core curricula for either program. Only a single course offering, *Designing for Interactivity*, will require an extensive preparatory effort prior to the rollout of the curricula. The department's current faculty possesses the skills and knowledge to deliver the proposed design core courses without additional faculty development efforts or the infusion of new faculty members.

Web Design and Development Core

The Web design and development cores of the bachelor and associate's degree programs demonstrate significant variation from the current model. Due to the magnitude of change present, it is recommended that ample faculty development time be allotted prior to the rollout of the new courses. Likewise, the existing courses

should be evaluated to ensure that they are presented in a manner that coincides with the cores' objectives and aligns with corresponding courses. The department's current faculty possesses the skills and knowledge to deliver many of the proposed Web design and development core courses; however, additional faculty development time will be required to prepare for new courses, and the infusion of new faculty members would benefit the delivery of the upper-level scripting courses.

E-Learning and Project Management Core

Based on the nominal changes proposed to the courses in this core, it is believed that very little faculty development time will be required to implement the proposed e-learning and project management core curricula for either program. The department's current faculty possesses the skills and knowledge to deliver the proposed courses without additional faculty development efforts or the infusion of new faculty members.

Server-Side Technologies Core

The server-side technologies core demonstrates significant variation from the current model. Due to the magnitude of change present, it is recommended that ample faculty development time be allotted prior to the rollout of the new, third-level course. Likewise, the introductory and intermediate level courses in this core should be evaluated to ensure that they are presented in a manner that coincides with the core's objectives. The department's current faculty possesses the skills and knowledge to deliver the introductory and intermediate level courses; however, additional faculty development time will be required to prepare for the new, advanced-level course, and

an infusion of new faculty members would benefit the delivery of this upper-level course.

Emerging Technologies Core

This core represents a new topical area for the faculty; however, the topics covered are related to knowledge and skills that the faculty already possess, so it is believed that very little additional faculty development time will be required to implement the proposed emerging technologies core curriculum.

Interactive Media Core

Each course in the interactive media core is based loosely on current courses; however, the proposed courses are significantly altered from the existing courses and should be treated as new courses. Thus, ample faculty development time should be allotted. The department's current faculty possesses the skills and knowledge to deliver much of the proposed interactive media core courses with Adobe Flash; however, additional faculty development time would be required to prepare for a standards-based HTML, CSS and JavaScript delivery of the courses. If a standards-based approach is desired, new faculty members would greatly enhance the delivery of the third-level, application-focused, advanced course.

User Experience Design Core

Based on the nominal changes proposed to the courses in this core, it is believed that very little faculty development time will be required to implement the proposed user experience design core curricula for either program. Only a single course offering, *User Experience Design*, will require an extensive preparatory effort prior to the rollout of the curricula. The department's current faculty possesses the

skills and knowledge to deliver the proposed, user-centered design core courses without additional faculty development efforts or the infusion of new faculty members.

Media Technologies Core

Although this core is comprised of new courses, the topics are addressed in other existing courses taught by current faculty members. Based on this information, it is believed that very little faculty development time will be required to implement the proposed media technologies core. The department's current faculty possesses the skills and knowledge to deliver the proposed media technologies core courses without additional faculty development efforts or the infusion of new faculty members.

Professional Practice and Internship Core

Based on the nominal changes proposed to the courses in this core, it is believed that very little faculty development time will be required to implement the proposed professional practice and internship core curricula. The department's current faculty possesses the skills and knowledge to deliver the proposed courses effectively without additional faculty development efforts or the infusion of new faculty members.

Senior Project and Self-Directed Learning Core

The senior project and self-directed learning core demonstrates significant variation from the current bachelor's curriculum. Due to the magnitude of change present, it is recommended that ample faculty development time be allotted prior to the rollout of the new, Self-Directed Learning course. Likewise, the Senior Project

Design and Senior Project Development courses should be evaluated and updated to better align with the self-directed focus of this core. The department's current faculty possesses the skills and knowledge to deliver these courses effectively.

Portfolio Core

Based on the addition of a mobile Web portfolio component to this core, some faculty development time will be required. However, the department's current faculty can effectively deliver the proposed courses without the infusion of new faculty members.

Curricula Assessment Recommendations

Assessment Overview

"Curriculum can be divided into the intended, enacted, assessed, and learned curricula" (Porter, 2004, p. 1). The intended curricula refer to the curricula as planned, such as the prescribed curricula outlined in the recommendations section of this document (Porter and Smithson, 2001, p. 2-3). The enacted curricula refer to the curricula as it is presented in the classroom (*i.e.,* the instruction) (Porter and Smithson, 2001, p. 2-3). The assessed curricula refer to the curricula as measured by standardized metrics or testing (Porter and Smithson, 2001, p. 2-3). Lastly, the learned curricula represent the total volume of content learned by the student and to what proficiency or degree (Porter and Smithson, 2001, p. 2-3). Each division provides a unique perspective on the curricula as a whole, and it is recommended that an assessment of each be included in the curricula assessment process.

Intended Curricula Assessment

To ensure the validity of the curricula and their applicability for the region's industry, intended curricula assessments should occur every three to five years. It is recommended that the evaluation be conducted via a committee of invested participants, comprised of representatives from the faculty, advisory board and administration. The intended curricula assessment should include a formal, systematic process, such as described in this document, which explores the curricula from varied perspectives and engages all of the primary stakeholders. The evaluation should examine the programs' topical models as well as individual courses to ensure their efficacy. The results of the evaluation should be documented, and appropriate action should be taken to update and adjust the curricula as needed.

Enacted Curricula Assessment

The programs' faculty should examine student work, from a selection of capstone courses, at the end of each academic session to confirm that the curricula are being presented appropriately and desired learning outcomes are being achieved. The use of capstone courses will allow for a reduction in workload while still providing an accurate snapshot of student learning and curricula performance across multiple courses and/or topical cores. The enacted assessment should also include annual classroom observations conducted by the program's academic director to assess pedagogical practice and to identify and address any deficiencies that might be present. This assessment should provide a forum for discussion of pedagogical practice and act as a platform for curricular improvement at the course level. To ensure the fairness and accuracy of the assessment process, standardized rubrics should be employed to gauge student learning and to measure pedagogical success.

Assessed Curricula Assessment

Although the Art Institute of Philadelphia does not currently employ any form of standardized testing for curricular assessment, it is recommended that some method of assessed curricula evaluation take place. One option would be to employ existing standardized testing from software vendors, such as Adobe's ACE (Adobe Certified Expert) certification. This approach would not only provide a metric by which to measure student learning, but would also afford students the opportunity to become certified designers and developers in various platforms and tools, which would add to their future marketability. This approach lends itself best to a singular assessment later in the learner's progression. The disadvantages to such an approach include the lack of control over the assessment instruments being employed and the inherent cost (*e.g.,* certification fees) of such assessments. Another, alternative would be to generate program-specific assessment instruments based on input from the advisory board and faculty that evaluate student learning and curricula effectiveness through the lens of the regional industry. This tack provides control over the assessment instruments and ensures that the curricula are addressing the needs of the region's industry. An annual assessed curricula evaluation near the end of a student's progression best aligns with the curricula structure and ensures an accurate measure of curricular success.

Learned Curricula Assessment

The program's faculty and advisory board should examine graduating students' final portfolios at the end of each academic session to evaluate the amount of curricular content being learned and to gauge the proficiency of the student body as a whole. This assessment should act as a measure of the curricula's overall

effectiveness. To ensure the fairness and accuracy of the assessment process, standardized rubrics should be employed to gauge student learning and to measure the success of the pedagogy.

Final Thoughts

The World Wide Web is on the cusp of one of its most evolutionary progressions to date. It will reach more people than ever before. It will be accessed from more types of devices than ever before. It will be richer, more intuitive and more engaging than ever before. *The question is* – will the Art Institute of Philadelphia's Web Design and Interactive Media programs be ready for it? Will our graduates be ready for the future that tomorrow brings?

This document offers thoughtfully prepared and tested curricula gauged by the programs' faculty, staff and advisory board. My challenge to the Art Institute of Philadelphia's leadership is to take this information and put it to good use – revitalize these curricula and bring the school's Web Design and Interactive Media programs back to the place of prominence that they deserve.

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APPENDIXES

APPENDIX A – BIOGRAPHICAL INFORMATION SURVEY

BIOGRAPHICAL INFORMATION SURVEY

A Formative Evaluation of a New Curricular Model for the Art Institute of Philadelphia's Web Design & Interactive Media Program

CONTACT INFORMATION

Name:_____

Title: _____

Organization: _____

Email: _____ Telephone Number: _____

DEMOGRAPHIC INFORMATION

Age: circle your age range: 20-30 31-40 41-50 51-60 61 and over

Education: circle your highest degree earned: HS AA or AS BA or BS MA or MS or MFA PhD or EdD

Field of Study: _____

INDUSTRY EXPERIENCE

Who is your current employer? _____

What is your current job title? _____

How long have you been in your current position? _____

What are your primary responsibilities? _____

What other jobs, if any, have you had in this industry?

_____

What "Interactive Media and Web Design" technologies and/or applications do you use on a regular basis? _____

What new technologies and/or applications do you consider to be critical to you and your organization in the future? _____

APPENDIX B – INTERVIEW PROTOCOL

INTERVIEW PROTOCOL

A Formative Evaluation of a New Curricular Model for the Art Institute of Philadelphia's Web Design & Interactive Media Program

INTRODUCTION

[Interviewer] – Read the following passage to the interview participant/s

The World Wide Web is a fluid, ever-changing medium. Its advance from yesterday's "Web 1.0" origins, as a static content presentation mechanism, to today's dynamic, user-centric, collaborative, "Web 2.0" environment has transformed the way we work, play and learn. Tomorrow's "Web 3.0" promises an even richer, more immersive experience that allows users to access the Web from a variety of devices and in a multitude of new ways. In a 2006 article for the New York Times, written by Victoria Shannon, Sir Tim Berners-Lee, the conceptual creator of the World Wide Web, stated that "'Twenty years from now, we'll look back and say this was the embryonic period'…'The Web is only going to get more revolutionary'" (Shannon, 2006). Berners-Lee's predictions are already coming true as the next generation of the Web begins to roll out.

Likewise, computing technologies continue to progress at exponential rates. Yesterday's desktop computer is today's laptop and tomorrow's handheld device. As voice technologies continue to improve and multi-touch interfaces begin to replace the mouse and keyboard, we are about to enter a new era in computing. As platforms evolve and transform, so must the applications and Websites that run on them. Tomorrow's designers and developers must be well versed in the nuances of these platforms and adept at leveraging their potential.

The Art Institute of Philadelphia's Web Design and Interactive Media curriculum has struggled to keep pace with the dramatic changes occurring with Web and computing technologies. The current curricular model focuses primarily on Web 1.0 technologies delivered via traditional computing devices and only delves marginally into Web 2.0 technologies. While this tack has adequately prepared graduates for yesterday's entry-level positions, it leaves them woefully unprepared for the dynamic landscape of tomorrow's workplace.

The goal of this effort is to evaluate and refine a new curricular model for the Web Design and Interactive Media program at the Art Institute of Philadelphia. The new model will build on the current curriculum's strengths and incorporates the latest Web 3.0 and mobile technologies to better prepare future graduates for the challenges of tomorrow's competitive marketplace.

Permission to Conduct the Interview

[Interviewer] – Review the "Consent for Participation in Research" form with the interview participant/s

[Interviewer] – If the interview participant does not wish to take part in the interview, read the following passage to him or her.

Thank you for your time. If you later decide that you would like to participate in this study, please contact me.

OR

[Interviewer] – If the interview participant wishes to take part in the interview, collect the signed "Consent for Participation in Research" forms and ask them to complete the biographical data form. Once all of the forms have been collected, begin the interview process.

INTERVIEW

[Interviewer] – Read the following passage to the interview participant

Thank you for agreeing to participate in the study. Your input will greatly aid in the design of this new curricular model. The proposed curriculum was designed around a series of core components. Each "core" includes a series of courses meant to further the students' understanding of the topics related to each component. I would like to start our discussion with an exploration of the "core components" of the proposed curricular model.

Core Components – Design

[Interviewer] – Read the following passage to the interview participant

The design core of this curriculum begins with foundational courses in drawing, design and color theory. The second level courses, introduce the students to digital design, typography and illustration. The third level courses expand on the second level courses and introduce interactive design concepts.

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: What are your thoughts regarding the design core of this curriculum?

PROBE: Do the courses represented provide an appropriate design background for the demands of the marketplace?

PROBE: What are your thoughts regarding the interactive design course?

PROBE: Are there any changes you would recommend for this core?

Core Components – Web Design & Development

[Interviewer] – Read the following passage to the interview participant

The Web design and development "cores" are intrinsically connected to each other and follow a specific progression. The Web design core of this curriculum begins with foundational courses in HTML and CSS. The second level courses, introduce the students to the intricacies of mobile Web design. The third level course explores HTML 5 and CSS 3 standards while incorporating more complex scripting strategies into the design of dynamic Websites. Coinciding with the Web design core is the Web development core. The first course of the Web development core introduces the learners to the JavaScript scripting language, while also exploring fundamental programming concepts and practices. The second course expands the students' knowledge of JavaScript and introduces DHTML. The third course introduces the jQuery JavaScript libraries and explores their practical uses. Lastly, the fourth course in the sequence explores AJAX and its use in dynamic Websites.

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: What are your thoughts regarding the Web design core of this curriculum?

PROBE: Do the courses represented provide an appropriate background in HTML and CSS?

PROBE: What are your thoughts regarding the inclusion of HTML5 and CSS3 in the curriculum?

PROBE: Are there any changes you would recommend for this core?

QUESTION: What are your thoughts regarding the mobile Web design core of this curriculum?

PROBE: What are your thoughts regarding the volume of courses and their location in the course sequence?

PROBE: Are there any changes you would recommend for this core?

QUESTION: What are your thoughts regarding the mobile Web development core of this curriculum?

PROBE: What are your thoughts regarding the volume of courses in the sequence?

PROBE: Are the topics covered appropriate for the demands of the marketplace?

PROBE: Are there any changes you would recommend for this core?

Core Component – E-Learning & Project Management

[Interviewer] – Read the following passage to the interview participant

The e-learning and project management core explores the discipline of instructional design, while introducing the students to learner-centric, design and development strategies. The sequence culminates with the "Project Management" course in which students are organized in teams and compete to "win" an *RFP* bid.

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: What are your thoughts regarding the e-learning and project management core of this curriculum?

PROBE: Are there any changes you would recommend for this core?

Core Component – Server-Side Technologies

[Interviewer] – Read the following passage to the interview participant

The server-side technologies core explores PHP and MySQL as well as the development of database-driven Websites. The third course in the sequence introduces students to semantic Web technologies and concepts.

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: What are your thoughts regarding the server-side technologies core of this curriculum?

PROBE: Do the courses represented provide an adequate depth of experience necessary to meet the demands of employers?

PROBE: Are there any changes you would recommend for this core?

Core Component – Emerging Technologies

[Interviewer] – Read the following passage to the interview participant

The emerging technologies course introduces the students to new and emerging technologies that might not warrant a separate, "stand-alone" course, but are important to their professional growth and understanding of the industry.

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: What are your thoughts regarding the emerging technologies course?

PROBE: Are there any changes you would recommend for this course?

Core Component – Interactive Media

[Interviewer] – Read the following passage to the interview participant

The interactive media core includes three separate courses that explore different aspects of interactive media. The first level course explores various forms of interactivity, animation and motion graphics. The second course advances on this foundation with the addition of scripting and more complex code-driven animations. The final course in the sequence examines the creation of rich Internet applications and mobile applications.

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: What are your thoughts regarding the interactive media core of this curriculum?

PROBE: Do the courses cover an appropriate range of topics?

PROBE: Should these courses be taught using Flash technologies or JavaScript, HTML5 and CSS3?

PROBE: Are there any changes you would recommend for this core?

Core Component – User Experience Design

[Interviewer] – Read the following passage to the interview participant

The user experience design core examines the discipline from three distinct perspectives. The first course examines the concepts and practices of user experience design. The second course explores the field of usability testing and its role in the creation of user-centric environments. The final course examines accessible Web design, multi-cultural Web design and internationalization strategies.

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: What are your thoughts regarding the user experience design core of this curriculum?

PROBE: Do the courses represented provide an appropriate background for the demands of employers?

PROBE: Are there any changes you would recommend for this core?

Core Component – Media Technologies

[Interviewer] – Read the following passage to the interview participant

The media technologies core explores the creation, manipulation and delivery of media in various forms, including photographic imagery, video and audio.

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: What are your thoughts regarding the media technologies core of this curriculum?

PROBE: Do the courses represented provide an appropriate media background to meet the demands of employers?

PROBE: Are there any changes you would recommend for this core?

Core Component – Professional Practice & Internship

[Interviewer] – Read the following passage to the interview participant

The professional practice and internship core introduces the student to the realities of working in a team-based environment. The professional practice course introduces the students to the rigor of team-based projects for "real world" clients within the structure and confines of the classroom. The internship expands on this experience by placing students in business environments with industry professionals to mentor their progress.

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: What are your thoughts regarding the professional practice and internship core of this curriculum?

PROBE: Do the courses represented adequately prepare students for the rigor of professional environments?

PROBE: Are there any changes you would recommend for this core?

Core Component – Senior Project & Independent Study

[Interviewer] – Read the following passage to the interview participant

The senior project and independent study core prepares the student for the challenges of maintaining and enhancing their skills sets without the benefit of guided, classroom instruction. In the senior research and senior project courses students indentify, research, design and develop a project for implementation using advanced or emerging technologies. The self-directed learning course introduces the students to self-directed learning strategies and provides an opportunity for students to advance their skill sets with new technologies.

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: What are your thoughts regarding the senior project and independent study core of this curriculum?

PROBE: What are your thoughts regarding the independent, self-directed skill building nature of this core?

PROBE: Are there any changes you would recommend for this core?

Core Component – Portfolio

[Interviewer] – Read the following passage to the interview participant

The portfolio core prepares the students for their impending job search with the preparation of a preliminary Web portfolio including a reduced subset of required projects in the first level course. The second course focuses on the finalization of the student's Web portfolio as well as the creation of the student's mobile Web portfolio.

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: What are your thoughts regarding the portfolio core of this curriculum?

PROBE: What are your thoughts regarding the inclusion of a mobile Web portfolio?

Curriculum Sequence

[Interviewer] – Read the following passage to the interview participant

Now that we have explored each of the core components, I would like to discuss your thoughts on the sequence of the cores and the sequence of courses in the curriculum as a whole.

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: What are your thoughts regarding the sequence of the "cores" in this curriculum?

PROBE: Are there any changes you would recommend for the sequencing of this curriculum?

QUESTION: What are your thoughts regarding the sequence of the courses in this curriculum?

PROBE: Are there any changes you would recommend for the sequencing of this curriculum?

General Questions

[Interviewer] – Read the following passage to the interview participant

Thank you for your invaluable input thus far. I have just a few remaining, general questions.

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: What are your thoughts regarding the topics covered in the proposed curriculum?

PROBE: Are they pertinent to the current and future marketplace?

PROBE: Are each of the topics covered in sufficient depth?

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: What are your thoughts regarding the differences and similarities between the two curricular models?

PROBE: Are the differences between the curricula substantial enough to warrant the differing degrees?

PROBE: Does the similarities in the curricula allow associate program students a seamless transition into the bachelor program?

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: Are the proposed curricula appropriate for the student body?

PROBE: Are they suitable for our students' scholarly ability?

PROBE: Does the associate curriculum provide enough of a foundation for a graduate to obtain entry-level employment?

PROBE: Does the similarities in the curricula allow associate program students a seamless transition into the bachelor program?

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: Do the proposed curricular models address the current and future demands of the region's industry?

PROBE: Does the associate curriculum provide enough of a foundation for a graduate to obtain entry-level employment?

PROBE: Does the bachelor curriculum provide enough of a foundation for a graduate to obtain entry-level to mid-level employment?

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: Do the proposed curricular models address the current and future demands of the region's industry?

PROBE: Does the associate curriculum provide enough of a foundation for a graduate to obtain entry-level employment?

PROBE: Does the bachelor curriculum provide enough of a foundation for a graduate to obtain entry-level to mid-level employment?

[Interviewer] – Read the following questions to the interview participant and record his/her response

QUESTION: Do the proposed curricular models align with the Art Institute of Philadelphia's goals and objectives for student learning?

[Interviewer] – Read the following passage to the interview participant

That concludes our interview. Thank you for your participation in the study. Your input will help shape and refine the proposed curricular models. If you have any further questions regarding this study, please feel free to contact me via email at tlsnyder@aii.edu. Thank you again for your time and your invaluable insights.

APPENDIX C – SURVEY

INTERVIEW PROTOCOL

A Formative Evaluation of a New Curricular Model for the Art Institute of Philadelphia's Web Design & Interactive Media Program

INTRODUCTION

The World Wide Web is a fluid, ever-changing medium. Its advance from yesterday's "Web 1.0" origins, as a static content presentation mechanism, to today's dynamic, user-centric, collaborative, "Web 2.0" environment has transformed the way we work, play and learn. Tomorrow's "Web 3.0" promises an even richer, more immersive experience that allows users to access the Web from a variety of devices and in a multitude of new ways. In a 2006 article for the New York Times, written by Victoria Shannon, Sir Tim Berners-Lee, the conceptual creator of the World Wide Web, stated that "'Twenty years from now, we'll look back and say this was the embryonic period'…'The Web is only going to get more revolutionary'" (Shannon, 2006). Berners-Lee's predictions are already coming true as the next generation of the Web begins to roll out.

Likewise, computing technologies continue to progress at exponential rates. Yesterday's desktop computer is today's laptop and tomorrow's handheld device. As voice technologies continue to improve and multi-touch interfaces begin to replace the mouse and keyboard, we are about to enter a new era in computing. As platforms evolve and transform, so must the applications and Websites that run on them. Tomorrow's designers and developers must be well versed in the nuances of these platforms and adept at leveraging their potential.

The Art Institute of Philadelphia's Web Design and Interactive Media curriculum has struggled to keep pace with the dramatic changes occurring with Web and computing technologies. The current curricular model focuses primarily on Web 1.0 technologies delivered via traditional computing devices and only delves marginally into Web 2.0 technologies. While this tack has adequately prepared graduates for yesterday's entry-level positions, it leaves them woefully unprepared for the dynamic landscape of tomorrow's workplace.

The goal of this effort is to evaluate and refine a new curricular model for the Web Design and Interactive Media program that builds on the current curriculum's strengths and incorporates the latest Web 3.0 and mobile technologies to better prepare future graduates for the challenges of tomorrow's competitive marketplace.

SURVEY

Thank you for agreeing to participate in the study. Your input will greatly aid in the design of this new curricular model. The proposed curriculum was designed around a series of core components. Each "core" includes a series of courses meant to further the students' understanding of the topics related to each component. I would like to start our discussion with an exploration of the "core components" of the proposed curricular model.

Core Components – Design

The design core of this curriculum begins with foundational courses in drawing, design and color theory. The second level courses, introduce the students to digital design, typography and illustration. The third level courses expand on the second level courses and introduce interactive design concepts.

QUESTION: What are your thoughts regarding the design core of this curriculum?

ADDITIONAL QUESTION: Do the courses represented provide an appropriate design background for the demands of the marketplace?

ADDITIONAL QUESTION: What are your thoughts regarding the interactive design course?

ADDITIONAL QUESTION: Are there any changes you would recommend for this core?

Core Components – Web Design & Development

The Web design and development "cores" are intrinsically connected to each other and follow a specific progression. The Web design core of this curriculum begins with foundational courses in HTML and CSS. The second level courses, introduce the students to the intricacies of mobile Web design. The third level course explores HTML 5 and CSS 3 standards while incorporating more complex scripting strategies into the design of dynamic Websites. Coinciding with the Web design core is the Web development core. The first course of the Web development core introduces the learners to the JavaScript scripting language, while also exploring fundamental programming concepts and practices. The second course expands the students' knowledge of JavaScript and introduces DHTML. The third course introduces the jQuery JavaScript libraries and explores their practical uses. Lastly, the fourth course in the sequence explores AJAX and its use in dynamic Websites.

QUESTION: What are your thoughts regarding the Web design core of this curriculum?

ADDITIONAL QUESTION: Do the courses represented provide an appropriate background in HTML and CSS?

ADDITIONAL QUESTION: What are your thoughts regarding the inclusion of HTML5 and CSS3 in the curriculum?

ADDITIONAL QUESTION: Are there any changes you would recommend for this core?

QUESTION: What are your thoughts regarding the mobile Web design core of this curriculum?

ADDITIONAL QUESTION: What are your thoughts regarding the volume of courses and their location in the course sequence?

ADDITIONAL QUESTION: Are there any changes you would recommend for this core?

QUESTION: What are your thoughts regarding the mobile Web development core of this curriculum?

ADDITIONAL QUESTION: What are your thoughts regarding the volume of courses in the sequence?

ADDITIONAL QUESTION: Are the topics covered appropriate for the demands of the marketplace?

ADDITIONAL QUESTION: Are there any changes you would recommend for this core?

Core Component – E-Learning & Project Management

The e-learning and project management core explores the discipline of instructional design, while introducing the students to learner-centric, design and development strategies. The sequence culminates with the "Project Management" course in which students are organized in teams and compete to "win" an *RFP* bid.

QUESTION: What are your thoughts regarding the e-learning and project management core of this curriculum?

ADDITIONAL QUESTION: Are there any changes you would recommend for this core?

Core Component – Server-Side Technologies

The server-side technologies core explores PHP and MySQL as well as the development of database-driven Websites. The third course in the sequence introduces students to semantic Web technologies and concepts.

QUESTION: What are your thoughts regarding the server-side technologies core of this curriculum?

ADDITIONAL QUESTION: Do the courses represented provide an adequate depth of experience necessary to meet the demands of employers?

ADDITIONAL QUESTION: Are there any changes you would recommend for this core?

Core Component – Emerging Technologies

The emerging technologies course introduces the students to new and emerging technologies that might not warrant a separate, "stand-alone" course, but are important to their professional growth and understanding of the industry.

QUESTION: What are your thoughts regarding the emerging technologies course?

ADDITIONAL QUESTION: Are there any changes you would recommend for this course?

Core Component – Interactive Media

The interactive media core includes three separate courses that explore different aspects of interactive media. The first level course explores various forms of interactivity, animation and motion graphics. The second course advances on this foundation with the addition of scripting and more complex code-driven animations. The final course in the sequence examines the creation of rich Internet applications and mobile applications.

QUESTION: What are your thoughts regarding the interactive media core of this curriculum?

ADDITIONAL QUESTION: Do the courses cover an appropriate range of topics?

ADDITIONAL QUESTION: Should these courses be taught using Flash technologies or JavaScript, HTML5 and CSS3?

ADDITIONAL QUESTION: Are there any changes you would recommend for this core?

Core Component – User Experience Design

The user experience design core examines the discipline from three distinct perspectives. The first course examines the concepts and practices of user experience design. The second course explores the field of usability testing and its role in the creation of user-centric environments. The final course examines accessible Web design, multi-cultural Web design and internationalization strategies.

QUESTION: What are your thoughts regarding the user experience design core of this curriculum?

ADDITIONAL QUESTION: Do the courses represented provide an appropriate background for the demands of employers?

ADDITIONAL QUESTION: Are there any changes you would recommend for this core?

Core Component – Media Technologies

The media technologies core explores the creation, manipulation and delivery of media in various forms, including photographic imagery, video and audio.

QUESTION: What are your thoughts regarding the media technologies core of this curriculum?

ADDITIONAL QUESTION: Do the courses represented provide an appropriate media background to meet the demands of employers?

ADDITIONAL QUESTION: Are there any changes you would recommend for this core?

Core Component – Professional Practice & Internship

The professional practice and internship core introduces the student to the realities of working in a team-based environment. The professional practice course introduces the students to the rigor of team-based projects for "real world" clients within the structure and confines of the classroom. The internship expands on this experience by placing students in business environments with industry professionals to mentor their progress.

QUESTION: What are your thoughts regarding the professional practice and internship core of this curriculum?

ADDITIONAL QUESTION: Do the courses represented adequately prepare students for the rigor of professional environments?

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The senior project and independent study core prepares the student for the challenges of maintaining and enhancing their skills sets without the benefit of guided, classroom instruction. In the senior research and senior project courses students identify, research, design and develop a project for implementation using advanced or emerging technologies. The self-directed learning course introduces the students to self-directed learning strategies and provides an opportunity for students to advance their skill sets with new technologies.

QUESTION: What are your thoughts regarding the senior project and independent study core of this curriculum?

ADDITIONAL QUESTION: What are your thoughts regarding the independent, self-directed skill building nature of this core?

ADDITIONAL QUESTION: Are there any changes you would recommend for this core?

Core Component – Portfolio

The portfolio core prepares the students for their impending job search with the preparation of a preliminary Web portfolio including a reduced subset of required projects in the first level course. The

second course focuses on the finalization of the student's Web portfolio as well as the creation of the student's mobile Web portfolio.

QUESTION: What are your thoughts regarding the portfolio core of this curriculum?

ADDITIONAL QUESTION: What are your thoughts regarding the inclusion of a mobile Web portfolio?

Curriculum Sequence

Now that we have explored each of the core components, I would like to discuss your thoughts on the sequence of the cores and the sequence of courses in the curriculum as a whole.

QUESTION: What are your thoughts regarding the sequence of the "cores" in this curriculum?

ADDITIONAL QUESTION: Are there any changes you would recommend for the sequencing of this curriculum?

QUESTION: What are your thoughts regarding the sequence of the courses in this curriculum?

ADDITIONAL QUESTION: Are there any changes you would recommend for the sequencing of this curriculum?

General Questions

Thank you for your invaluable input thus far. There are just a few remaining, general questions.

QUESTION: What are your thoughts regarding the topics covered in the proposed curriculum?

ADDITIONAL QUESTION: Are they pertinent to the current and future marketplace?

ADDITIONAL QUESTION: Are each of the topics covered in sufficient depth?

QUESTION: What are your thoughts regarding the differences and similarities between the two curricular models?

ADDITIONAL QUESTION: Are the differences between the curricula substantial enough to warrant the differing degrees?

ADDITIONAL QUESTION: Does the similarities in the curricula allow associate program students a seamless transition into the bachelor program?

QUESTION: Are the proposed curricula appropriate for the student body?

ADDITIONAL QUESTION: Are they suitable for our students' scholarly ability?

ADDITIONAL QUESTION: Does the associate curriculum provide enough of a foundation for a graduate to obtain entry-level employment?

ADDITIONAL QUESTION: Does the similarities in the curricula allow associate program students a seamless transition into the bachelor program?

QUESTION: Do the proposed curricular models address the current and future demands of the region's industry?

ADDITIONAL QUESTION: Does the associate curriculum provide enough of a foundation for a graduate to obtain entry-level employment?

ADDITIONAL QUESTION: Does the bachelor curriculum provide enough of a foundation for a graduate to obtain entry-level to mid-level employment?

QUESTION: Do the proposed curricular models align with the Art Institute of Philadelphia's goals and objectives for student learning?

That concludes the survey. Thank you for your participation in the study. Your input will help shape and refine the proposed curricular models. If you have any further questions regarding this study, please feel free to contact me via email at tlsnyder@aii.edu. Thank you again for your time and your invaluable insights.

APPENDIX D – IRB APPROVAL LETTER

RESEARCH OFFICE

210 Hullihen Hall
University of Delaware
Newark, Delaware 19716-1551
Ph: 302/831-2136
Fax: 302/831-2828

DATE: October 18, 2011

TO: Timothy Snyder
FROM: University of Delaware IRB

STUDY TITLE: [200628-2] A Formative Evaluation of a New Curricular Model for the Art Institute of Philadelphia's Web Design & Interactive Media Program

SUBMISSION TYPE: Continuing Review/Progress Report

ACTION: APPROVED
APPROVAL DATE: October 18, 2011
EXPIRATION DATE: November 17, 2012
REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category # 7

Thank you for your submission of Continuing Review/Progress Report materials for this research study. The University of Delaware IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All sponsor reporting requirements should also be followed.

Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office.

Please note that all research records must be retained for a minimum of three years.

Based on the risks, this project requires Continuing Review by this office on an annual basis. Please use the appropriate renewal forms for this procedure.

If you have any questions, please contact Jody-Lynn Berg at (302) 831-1119 or jlberg@udel.edu. Please include your study title and reference number in all correspondence with this office.