Instructional Design and Project Management: Which Competencies are Which?

Shahron Williams van Rooij
George Mason University
Fairfax, VA, USA

Abstract

In the digital age, instructional designers must possess both a sound instructional design knowledge base and solid project management skills that will enable them to complete courseware projects on time, on budget, and in conformance with client expectations. This paper reports the results of a study to identify the extent to which an organization's project management implementation maturity affects roles and responsibilities in educational/training product development projects, particularly as regards the instructional design and the project management roles. Results show no significant difference by project management maturity level in the roles of instructional designer and project manager. However, there appears to be some relationship between maturity level and how organizations perceive the skills/competencies of project managers vs. those of instructional designers. Further, organizational decision-makers tend to have very specific expectations about the formal education and training of educational/training product development project leaders.

Introduction

The American Society for Training & Development (ASTD) estimates that U.S. organizations spent $134.1 billion on employee learning and development in 2008, nearly on a par with the $134.39 billion spent in 2007 (Paradise & Patel, 2009). These spending levels bode well for educational/training product development projects and for the job market for instructional designers. There are many graduate degree programs in the U.S. that prepare students for careers in instructional design The standards for instructional design competencies developed by the International Board of Standards for Training, Performance, and Instruction (IBSTI) are among the professional standards to which advanced degree programs in instructional design adhere, with the ability to plan and manage educational/training product development projects listed among the IBSTI advanced competencies for experienced instructional designers (International Board of Standards for Training, Performance, and Instruction, 2000).

Although the instructional design literature is clear about the need to effectively manage educational/training product development projects, most models of instructional design view project management as embedded within the instructional design process, rather than as a separate methodology (Greer, 1992; Gentry, 1994; Yang, Moore, & Burton, 1995; McDaniel & Liu, 1996; Stubbs, 2002; Li & Shearer, 2005). However, project management is a distinct and evolving discipline, with its own methodology, body of knowledge, and professional standards and practices. Further, instructional designer positions require not only instructional design skills/competencies, but also project management skills, including the ability to lead a project team, estimate project requirements, and develop processes and standards for completion of educational/training product development projects.

Project Management

The Project Management Institute (PMI), the global standards and credentialing body for the project management profession, defines project management as the application of a body of knowledge, skills, tools and techniques to project activities to meet project requirements, all of which is documented in the Project Management Body of Knowledge (PMBOK® Guide) (Project Management Institute, 2009). Effective project management also requires knowledge of the characteristics of the project's environment (e.g., technology, industry, etc.) as well as general management knowledge and skills, and interpersonal skills. Those interpersonal skills – particularly communication skills and leadership skills – are deemed essential to today's successful project manager, where a good portion of project activity often takes place in virtual environments (Horine, 2009). Although project management has its strongest presence in industries where projects tend to be complex, multi-year and require extensive human and financial resources (information technology, construction, etc), project management processes and procedures can be used in a variety of industries and for a variety of project types and sizes.

To assess how much of the project management methodology organizations actually use, Thomas and Mullaly (2008) offer a five-level model for assessing the project management maturity of an organization: 1)Ad hoc, with no organizational implementation of project management; any use of project management processes depends on the expertise of individual project managers; 2) some practices, with incomplete or inconsistent application enterprise-wide; 3) consistent practices, with a complete project management process in place and applied consistently enterprise-wide; 4) integrated practices, with project management as an integral management capability that is fully integrated with the organizational lifecycle, and; 5) continually improving practices, with a holistic, fully integrated approach to managing projects with a formal and consistently followed process of evaluating, assessing, and improving project management implementation. Although the organizations in the Thomas and Mullaly study represent a variety of industries and project types, there is no indication as to whether any of the projects were educational/training product development projects.

Educational/Training Product Development and Project Management

In developing educational/training products, organizations engage in instructional design, a process guided by systematic design models and principles focused on establishing and maintaining effective and efficient human performance (Rothwell & Kazanas, 2008). The International Board of Standards for Training, Performance, and Instruction (IBSTPI) publishes a list of skills and competencies for the instructional design professional, spanning novice, experienced and expert designers, with project management listed among the advanced competencies for experienced instructional designers. Project management complements the instructional design process by offering a set of repeatable processes with which to describe, organize and complete the work required for each phase of the project lifecycle, with deliverable complexity also determining how much process is used at each phase (Williams van Rooij, 2010).

Consistent with the success criteria for any type of project, an educational/training product development project is deemed successful if it is delivered on time, within budget, and meets the requirements of the project stakeholders (Rowe, 2007; Crawford & Pollack, 2007; Horine, 2009; Stubbs, 2002). Even when the roles of instructional designer and project manager are filled by the same individual, using project management processes enables the educational/training product development project manager to (a) clearly define the project, develop realistic schedules, and manage change, (b) choose those processes, levels of detail, and methodology components appropriate to the specific project, (c) operate in an organized and efficient manner, and (d) have more time to devote to the management "soft" skills, such as team building. However, the ability to apply the specific project management processes and knowledge areas are skills that are distinctly different from those of a subject matter expert or an instructional designer. When it comes to educational/training product development, the boundaries between the instructional design professional and the project management professional are often unclear, with conflicting and/or overlapping roles and responsibilities (Dobrovolny, Lamos, Sims, & Spannaus, 2002; Layng, 1997; Greer, 1992). What is needed is a clear understanding of how these boundaries play out in the real world of work.

Research Questions

Examining the boundaries between the instructional designer's role and the project manager's role requires an initial understanding of an organization's commitment to project management as a distinct methodology. This paper reports the results of a Web survey designed to determine the extent to which an organization's project management implementation maturity (PMIM) affects roles/responsibilities in educational/training product development projects. The specific research questions were: 1) How much of the project management methodology do organizations purport to be using in their educational/training product development projects, as measured by Thomas and Mullaly's (2008) five-level model of project management implementation maturity (PMIM)?; 2) to what extent does PMIM affect organizational expectations of an instructional designer's skill/competencies as set down by the International Board of Standards for Training, Performance, and Instruction (IBSTI), versus the skills/competencies of a project manager as documented in the Project Management Body of Knowledge (PMBOK® Guide) by the Project Management Institute (PMI)?

Method

Three segments are essential to the identification of project management maturity in educational/training product projects: (a) project management professionals who lead educational/training product development projects but are not necessarily instructional designers themselves; (b) instructional designers, and; (c) organizational decision makers charged with defining the skills and competencies essential to educational/training product project

team leaders (e.g., Chief Learning Officers, Directors of Training and Development). Target respondents were recruited via a purposive sampling of members of the Project Management Institute (PMI), the American Society for Training and Development (ASTD), and the e-Learning Guild obtained through a call for participation message and two reminder messages posted to their respective discussion boards in January – February 2010.

A total of 115 responses were received. However, 12 of those responses were dropped from the analysis because the respondent's organization either did not design/develop educational/training products or the respondent did not answer this screening question. Consequently, a total of 103 responses were retained for analysis. About one-third (33.7%) of respondents were organizational decision-makers, more than one in four (29.6%) were instructional designers, while one in five (21.4%) were project management professionals. The vast majority (76.5%) of respondents were in the United States and were employed by companies and departments of various sizes, with one in four (24.5%) of those companies in the consulting/contracting sector. There were relatively equal percentages of male and female respondents (51.6% and 48.4% respectively), with more than half (57.9%) employed in educational/ training product development for 5-15 years.

The unit of analysis is the respondent because the sampling method (a) enables (but cannot verify) more than one individual from an organization to respond and (b) assumes that any respondent is knowledgeable enough about his/her organization to respond to the questions about organizational characteristics, including level of project management implementation maturity, although this possibility is less worrisome given that one-third (33.7%) of respondents are organizational decision makers and as such, are assumed to know what goes on in their respective organizations.

The survey questionnaire used in this research is a composite of the following sources: 1) The self-assessment components of the Thomas and Mullaly (2008) study of PMIM that presented respondents with definitions of each of the five levels and asked them to select the level that best describes the extent to which project management has been implemented in their organization; 2) the professional competencies published by IBSTPI and PMI respectively, and; 3) the list of instructional design project manager skills/competencies in Brill, Bishop and Walker's (2006) study of the core success criteria for educational/training product development projects. In constructing the survey instrument, generally accepted survey creation guidelines were followed (Wiersma, 2000). The questionnaire also included closed-ended demographic questions to obtain information about the characteristics of the respondents and of their respective organizations. To identify expected competencies of project managers and instructional designers, respondents were presented with a list of IBSTPI and PMI competencies and were asked to identify whether each competency is essential for the instructional designer, the project manager, or for both using the following 7-point scale adapted from Zimmerman & Kitsantas' (2005) Perceived Responsibility scale: "1" means "always the project manager"; "2" means "mainly the project manager"; "3" means "slightly more the project manager"; "4" means "both equally"; "5" means "slightly more the instructional designer"; "6" means "mainly the instructional designer", and; "7" means "always the instructional designer".

To assess the instrument's content validity – a subjective assessment of how appropriate the instrument seems to subject matter experts as well as members of the target population (Litchenham & Pfleeger, 2002), a group of six experts who have published articles in peer-reviewed journals in the fields of instructional design and project management respectively were invited to review the draft survey in October 2009. The most notable outcome of this preliminary validation was the recommendation to eliminate the redundancies in the list of project management and instructional design competency attributes. The questionnaire was revised to reduce the list of competencies from 38 to 24, was uploaded to a web hosting service, and the URL posted to the target respondent discussion boards.

Data validation was conducted to test for the presence of data anomalies such as outliers and missing values. Frequency distributions and crosstabs were run to obtain descriptive statistics about respondent characteristics as well as project management implementation at the organizational level and at the departmental level. The attribute list containing instructional designer and project manager skills/competencies was subjected to an item reliability analysis via Cronbach's Alpha, to measure the extent to which the items are related to each other and to obtain an overall index of the internal consistency of the scale (Creswell, 2002). The coefficient for the skills/competencies items was .924, which is well above the Social Sciences norm of .700.

Summary of Findings

Reported Use of Project Management/PMIM

The first research question concerns the extent to which organizations purport to be using the project management methodology in their educational/training product development projects, as measured by Thomas and Mullaly's (2008) five-level model of project management implementation maturity (PMIM) To that end, respondents were presented with Thomas and Mullaly's (2008) five-level model and were asked to select the level

that best describes their organization's PMIM. Nearly two-thirds (61%) reported low (ad hoc or some practices) PMIM levels. When asked to describe the extent to which project management has been implemented in the department or function area responsible for educational/training product development, about half (51.3%) described those areas as having low PMIM levels. Only about one in four respondents characterized either their organization or their educational/training product development department as having a high level of PMIM.

Looking at PMIM at the departmental/functional level, there are some demographic differences (see Table 1). Respondents reporting a medium or high PMIM in the departments/functional areas responsible for educational/training products were more likely than those reporting low PMIM levels to be responsible for their organization's learning and development strategy, budgeting, and staffing. They tended to be employed in higher education, telecommunications, and the non-military sector of government. Their organizations tended to have 500 or more employees in total, and had 21 or more employees in the educational/training product development area. Organizational-level PMIM showed similar differences, although not as pronounced as at the departmental/functional area level.

Table 1

Selected Sample Demographics by Departmental/Functional Area PMIM

	Low Maturity[a] (n=56)	Medium/High Maturity[b] (n=47)*
Respondent's Primary Focus		
Responsibility for an enterprise-wide learning & development strategy, budget & staffing	24.3%	44.4%
Working on educational/training product development projects, either as a team member or team leader	75.7%	55.6%
Industry		
Higher education	2.4%	20.0%
Telecommunications	0%	8.6%
Government/non-military	2.4%	8.6%
Company Size		
Less than 100 employees	28.6%	17.7%
101-500	18.7%	14.9%
501-1,000	17.1%	15.3%
1,001-5,000	21.3%	32.1%
More than 5,000	14.3%	20.0%
Area Size		
Less than 5 employees	37.5%	22.9%
5-20	32.5%	22.9%
21-50	20.4%	34.3%
More than 50	9.6%	19.9%

Note. [a] Low Maturity=Ad hoc/level 1, some practices/level 2. [b]Medium/High Maturity=Consistent practices/level 3, integrated practices/level 4, or continually improving practices/level 5. *Caution: Small cell sizes

Respondents were then asked whether the roles of instructional designer and project manager are fulfilled by the same individual or by different individuals. Although 4 in 10 (40.2%) respondents stated that in their organization, the instructional designer fulfilled both the roles, there were some differences when looking at the responses by project management implementation maturity level. Table 2 shows that as expected, the likelihood of the project manager and the instructional designer each fulfilling separate roles was significantly higher (at the 95% level of confidence) in organizations characterized by a medium or high level of PMIM in the department/functional area responsible for educational/training product development. However, organizations with a medium/high level of PMIM appeared to be as likely to have the instructional designer fulfill both roles as they were to have separate individuals fulfill those roles. The voluntary comments for medium/high PMIM respondents tended to explain role fulfillment according to project size and complexity, while the voluntary comments of low PMIM respondents explained role complexity according to the organization's own business models.

Table 2

Fulfillment of Instructional Designer and Project Manager Roles by Departmental/Functional Area Level PMIM

	Total Respondents (%) (N=103)	Low Maturity[a] (%) (n=56)	Medium/High Maturity[b] (%) (n=47)*
Instructional Designer Fulfills Both Roles	40.2	43.9	36.4
Project Manager Fulfills Both Roles	11.0	14.6	9.1
Project Manager and Instructional Designer Each Fulfill Separate Roles	28.0	17.1	39.4
Some Other Arrangement	20.8	24.4	15.1

Note. [a] Low Maturity=Ad hoc/level 1, some practices/level 2. [b]Medium/High Maturity=Consistent practices/level 3, integrated practices/level 4, or continually improving practices/level 5. *Caution: Small cell sizes

PMIM and Project Management vs. Instructional Design Skills/Competencies

The second research question concerns the impact of PMIM on skill/competency expectations. To assess the extent to which project management implementation maturity affects the skills/competencies expected of an instructional designer versus those of a project manager, respondents were presented with a list of 24 skills and competencies and were asked to rate whether each area of expertise is more essential for the project manager, for the instructional designer, or for both equally on a 7-point scale: "1" means "always the project manager"; "2" means "mainly the project manager"; "3" means "slightly more the project manager"; "4" means "both equally"; "5" means "slightly more the instructional designer"; "6" means "mainly the instructional designer", and; "7" means "always the instructional designer". Looking at the mean ratings in Table 3, it appears that educational/training product development departments/functional areas with low PMIM levels were fairly similar to those with medium/high PMIM levels in selecting the IBSTPI skills/competencies that are essential for the instructional designer. Instructional designers were expected to: Select and use a variety of techniques for determining instructional content (Content); select and use a variety of techniques to define and sequence the instructional content and strategies (Sequencing); apply fundamental research skills to educational/training product development projects (Research); evaluate and assess instruction and its impact (Assessment); select, modify, or create a design and development model appropriate for a given educational/training product development project (Design Models); conduct a needs assessment to identify the perceived gap between an existing situation and the desired situation (Needs Assessment); analyze the characteristics of existing and emerging technologies and their use in an instructional environment (Technologies); apply current theory to solve practical problems (Theory).

At the other end of the spectrum, project managers were expected to possess the following PMI-based competencies: Plan, estimate, budget and control costs, so that the project can be completed within the approved budget (Costs); organize and manage the project team, so that team member competencies and interactions enhance project results (Team Management); define, resource and schedule all activities required to accomplish timely project completion (Activities Scheduled); ensure timely and appropriate collection and distribution of project information to stakeholders (Information Distribution); identify and manage risks that may impact the project (Risk Management); plan and manage educational/training product development projects, including scope, budget, schedule, and resources (Project Management); promote collaboration, partnerships, and relationships among the participants and stakeholders (Collaboration); define and control what is (not) included in the project (Scope); analyze the characteristics of the project environment (Project Environment). Skills/competencies that were expected of both the instructional designer and the project manager are: Communicate effectively in visual, oral, and written form (Communicate); identify and apply the relevant quality standards, so that results satisfy project requirements (Quality); provide for the effective implementation of educational/training products and programs

(Implementation); identify and resolve ethical and legal implications of educational/training product development in the workplace (Ethical/Legal); make tradeoffs among competing objectives and alternatives (Tradeoffs); anticipate and address potential issues before they become critical (Issues).

Table 3

Mean Ratings of Project Manager and Instructional Designer Skills/Competencies by Departmental/Functional Area PMIM

Skill/ Competency	Low Maturity[a] (n=56)	Medium/High Maturity[b] (n=47)*	Skill/ Competency	Low Maturity[a] (n=56)	Medium/High Maturity[b] (n=47)*
Content	5.95	5.70	Implementation	3.81	3.73
Sequencing	5.81	6.08	Issues	3.65	3.52
Research	5.69	5.37	Tradeoffs	3.65	3.50
Assessment	5.68	5.48	Project environment	3.51	3.27
Design models	5.51	5.04	Scope	3.14	3.19
Target population	5.50	4.63	Collaboration	2.97	3.19
Needs assessment	5.24	4.67	Project management	2.92	2.54
Technologies	5.22	4.92	Risk management	2.73	3.12
Theory	4.83	4.83	Information distribution	2.73	2.77
Communicate	4.43	4.63	Activities scheduled	2.70	2.73
Quality	4.24	3.88	Team management	2.65	2.69
Ethical/legal	3.97	3.80	Costs	2.41	2.08

Note. [a] Low Maturity=Ad hoc/level 1, some practices/level 2. [b]Medium/High Maturity=Consistent practices/level 3, integrated practices/level 4, or continually improving practices/level 5. *Caution: Small cell sizes

To drill down on skill/competency expectations, decision-makers – respondents who stated that their role focused on responsibility for their organization's enterprise-wide learning and development strategy, budget, and staffing – were presented with a list of formal educational/training alternatives and were asked to select the alternative that best describes the type of formal training/education expected of potential leaders of educational/training product development project teams. The majority (60.0%) of decision-makers in organizations with low PMIM expected project team leaders to have post-graduate certification in Instructional Design, either in the form of a Masters degree or a graduate-level certificate from a college or university. Interestingly, nearly one in three (30.0%) required no formal education/training. In contrast, decision-makers in organizations with medium/high PMIM were less likely to select a "best" source of formal education/training, with one in two (50%) offering up their own expectations in the comment box next to the alternative "If other, please specify". Typical comments focused on a preference for both formal and informal knowledge sources. In response to an open-ended question about what sources other than formal education were needed, both low and medium/high PMIM respondents mentioned experience in managing educational/training product development projects as the means of acquiring the knowledge necessary to lead project teams.

Lastly, project team leaders – respondents who identified themselves as project managers (PMP or non-PMP certified) – were asked how they acquired their knowledge of instructional design and project management respectively. Although 10 in 22 project team leaders possessed a formal degree or post-graduate certificate in instructional design, nearly all (8 in 10) were in the medium/high PMIM segment. In terms of project management knowledge, however, project leaders in both PMIM segments acquired their knowledge from a variety of formal and informal sources. Project leaders in the medium/high PMIM segment were more likely than their low PMIM counterparts to have had formal project management training.

Discussion

This study explored the extent to which organizations that develop educational/training products's are committed to project management as a methodology – as measured by project management implementation maturity (PMIM) – that is separate and distinct from the processes of instructional design. The fairly low levels of project management implementation maturity (PMIM) observed in this study may reflect the evolving nature of project management as a discipline. In a review of the development of project management best practices since 1945, Kerzner (2010) notes that project management has become less a series of processes and more of an enterprise-wide strategy used to differentiate organizations from their competitors. This relatively new application of project management has resulted in organization-specific definitions of best practice which, in turn, makes enterprise-wide implementation more complex than just adopting standardized templates and procedures. The churn in applied project management practice is also reflected in Thomas and Mullaly's (2008) finding of great disparity in implementation among different organizations and different project types.

Turner, Ledwith and Kelly (2009) conducted a study of 280 companies to determine the extent to which those companies apply project management principles and tools. Study results indicated that regardless of industry, the smaller the company, the less robust will be the use of project management processes and tools. The Small Business Administration's criterion for defining a small business is an employee base of 500 or less (U.S. Small Business Administration, n.d.). The organizations in the present study that were more likely to have low project management implementation maturity levels have fewer than 500 employees, while those with medium or high PMIM levels have 500 or more employees. Further, the number of employees in the functional areas responsible for educational/training product development in the present study tended to be less than 20 for departments with low PMIM levels versus 20 employees or more in departments with medium or high PMIM levels. Consequently, the PMIM levels found in this study appear to be in line with what the literature states about the project management maturity levels of small versus medium and large firms. In addition, the study finding that education/training departments with medium or high PMIM levels tend to be in the telecommunications and government sectors is consistent with the historical development of the discipline of project management. A new insight is the finding that higher education is also strongly represented among medium/high PMIM level departments. This may reflect the fact that higher education is the leading provider of instructional design professionals (GradSchools.com, 2010), with departments and functional areas that engage in instructional design projects to support teaching and learning at their respective institutions.

The apparent tendency of respondent organizations with low PMIM levels to have the instructional designer fulfill his/her own role plus the role of project manager is also to be expected given the size and relatively small number of staff in the organizations. What was not expected was the finding that respondents reporting medium or high PMIM levels appear to be as likely to have the instructional designer fulfill both roles as they are to have separate individuals fulfill those roles. One explanation may lie in the respondents' own roles in their respective organizations. Respondents in the medium/high PMIM segment were more likely than those in the low PMIM segment to include decision-makers responsible for the organization's learning and development strategy, budget and staffing. As such, these respondents would tend to be more knowledgeable about which projects require what functional roles. This assumption of knowledge seems to be supported by the voluntary comments in which medium/high PMIM decision-makers linked the project leadership role to the size and complexity of a specific project.

The fact that the study revealed no significant differences between the low and medium/high PMIM segments on the skills/competencies expected of an instructional designer versus a project manager suggests a general consensus as to the expected knowledge base of instructional designers and project managers respectively. A more puzzling finding is the apparent disconnect between decision-maker expectations about how candidates for leadership of educational/training product development project team should acquire their knowledge of instructional design and of project management, and how practicing project team leaders acquire their working knowledge of project management and instructional design respectively. On the one hand, decision-makers in both the low PMIM

and the medium/high PMIM segments expect team leaders to have an advanced degree in instructional design or related field plus solid experience in managing complex educational/training product development projects. However, they do not require formal education/training in project management and seem to emphasize "learning by doing" as the means of acquiring project management experience. On the other hand, project team leaders reporting college/university education/training in instructional design appear to be concentrated in the medium/high PMIM segment, while those in the low PMIM segment report relatively limited formal/education in instructional design. Further, project team leaders in both PMIM segments have had formal as well as informal training in project management. This suggests that practitioners deem formalized project management knowledge as the "ticket to entry" for project team leadership, affording them the opportunities and grounding to gain project management experience.

One possible explanation for this disconnect lies in the disciplines that offer formal project management education versus those offering formal instructional design education. Project management has its roots in production industries and the military, then diffused to other commercial entities and organizations. As such, project management is a natural fit with the curricula of degree and certificate programs that educate professionals for those industries (e.g., Business, Engineering). Instructional design programs, however, are usually offered by colleges of Education whose long-standing mission has been the education of teachers, the development of education leaders, and the advancement of teaching excellence. Although these programs have evolved to capitalize on the teaching and learning affordances of technology and prepare students to design instruction in a variety of settings and environments, the notion that instruction is a product that requires process management beyond the processes provided by instructional design models, is not a good fit with the values, beliefs and shared assumptions of the discipline (and sub-disciplines) of Education prevalent in the U.S. (Williams van Rooij, 2010).

Conclusions

This study provides insights into the reported usage of project management methodology and perceived competencies and roles of project managers and instructional designers in educational/training product development project teams.. However, the study does have limitations. The study is constrained by the relatively small number of survey respondents. The associations to which the call for participation was issued collectively have nearly two million active members representing a diversity of organizations, industries, and geographic regions. As such, the results obtained from the survey sample are not generalizable to either the association memberships or to specific categories in the data (industry sectors, occupational groups, etc.). In addition to the hypotheses offered in this study, there may be alternative hypotheses about why elements of managing projects were embedded into instructional design models rather than as separate but complementary processes. Nevertheless, comparison with other studies facilitated interpretation of the findings and allowed a richer picture of the observed phenomena to emerge.

The study also signals opportunities for future research. For example, a scale-up of this study to a larger sampling of target respondents would enable an analysis of PMIM by various sample segments. The impact of industry, region (including national versus international organizations), and other organizational characteristics on PMIM is a research opportunity area. The path to project team leadership of instructional designers with advanced degrees and limited/no formal project management training versus those with formal project management training is another area that should be tracked. Similarly, the path to team leadership of project managers without advanced degrees in instructional design but with formal project management training should be tracked. A comparison of the two paths would help determine which combinations of formal/education training take priority in the selection of educational/training product development project team leaders. It would also contribute to the exploration of the impact of gaps in project management competencies among graduates of instructional design degree and certificate programs.

The findings from this study should contribute to the dialog about how institutions of higher education keep the scope of their offerings in instructional design degree and certificate programs targeted toward practititoners current with the needs of the job market. By the same token, the impetus for the inclusion of project management courses in the instructional design curricula needs to be stressed by the project management community. For example, the Project Management Institute (PMI) could do a much better job of advocacy with educational institutions, generating awareness beyond the traditional disciplines of business, information technology, etc. PMI has begun to take steps in this direction through its educational foundation (Project Management Institute Educational Foundation (PMIEF), 2008) offering a project management training fellowship program to assist in-service primary and secondary school teachers and administrators in learning the fundamentals of project management. The goal of the program is to enable teachers and administrators to utilize project management in schools and/or classrooms as a means of enhancing the education of students learning 21st century skills. It is hoped

that efforts such as this will contribute to the ongoing dialogue about the relationship between instructional design and project management, and that the skills/competencies of the two professions are increasingly seen as complementary rather than divergent.

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