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# Title: Project Management Competencies in Instructional Design

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## **Abstract**

Globalization, competition, technology, and most recently, the Covid-19 pandemic are causing disruptions to the nature of work and forcing organizations to quickly adapt. To support employee learning and adaptability, many organizations employ instructional designers to create training, develop performance solutions, and lead learning initiatives. Instructional design is inherently complex, and it can be challenging to manage large instructional design projects effectively. Project management is one field of knowledge that could provide insight and strategies for managing instructional design effectively. Some research exists related to instructional design and project management. However, there is limited research on which project management practices are most important in managing instructional design (ID) projects. Further, some of the existing studies are qualitative with limited participants, making it difficult to generalize the results. This study surveyed experienced instructional designers, project managers, and managers of instructional design to identify the most important instructional design project management strategies. First, a systematic review of instructional design project management literature was conducted to identify key project management competencies. Next, a survey instrument was created based on the results of the systematic analysis. We employed a convenience sampling procedure to implement an online, cross-sectional survey. Eighty-six instructional design professionals completed the survey. The main research question results included the six most crucial instructional design project management competencies in instructional design projects. Results indicate no statistically significant differences in the most critical instructional design project management competencies based on role or industry. Critical competencies include practice ethical behavior, keep the project and the team organized, remain flexible and adapt, communicate effectively with all stakeholders, ensure tasks are completed, and convey ideas clearly and concisely. Results of the study are shared, including those related specifically to higher education.

## **Introduction**

### **Globalization, Competition, and Disruption**

Organizations face many challenges; some of these challenges require them to quickly adapt and make difficult changes. The speed at which organizations adapt to change is one organizational problem that can no longer be ignored (Denning, 2016). Globalization and technology have been fundamental drivers in the changing nature of work (Djankov & Saliola, 2018), and technology and the advancement of algorithms have increased the ability to scale on-demand quickly, heightening competition, and disrupting existing markets (Christensen, 2000; Denning, 2016; Djankov & Saliola, 2018; Gans, 2016). In the past, value chain inputs, such as fuel or the cost of capital, were the leading disruptions that organizations had to contend with (Rummler & Brache, 1995). Now, the marketplace has expanded globally and changed the way we access many goods and services from a

nine-to-five conventional business hour model to 24/7 on-demand availability. Rummler & Brache (1995) advise a holistic approach to assessing the needs of an organization's performance goals, design, and management at the organization, process, and job/performer levels to sustain a competitive advantage. At a time when technology is a pervasive part of daily life, organizations in all sectors must employ practices that help them adapt more quickly to disruptions to remain competitive (Christensen, 2000; Friedman, Gerstein & Hertz, 2018; Ramesh, Mohan & Cao, 2012). Preparing people in organizations with the right knowledge and skills to identify, respond, and overcome challenges faced by disruptions due to globalization, competition, or pandemics can help organizations adapt more quickly.

## **Instructional Design**

Developing talent has continued to be a top priority for many organizations to maximize learning and efficiently manage workforce performance (Ho, 2015). To aid in supporting employee learning and adaptation to change, many organizations employ instructional designers to create training and performance solutions, and to lead learning initiatives (Tracey & Morrison, 2012). Instructional design uses a systematic approach to assess learning needs and goals, and to diagnose and solve workplace problems (Dick, Carey, & Carey, 2009; Fortney & Yamagata-Lynch, 2013; Gagné & Merrill, 1990; Jonassen, 1997). Instructional design professionals create learning experiences that are intended to improve learning and performance, using a systematic process to develop personalized learning experiences that support learning outcomes (Brown & Green, 2018; Dick, Carey, & Carey, 2009).

Still, instructional design is inherently complex (Dick, Carey, & Carey, 2009), and managing large, complex instructional design projects can be difficult (Atkinson, Crawford, & Ward, 2006; Gardner, Bennett, Hyatt, & Stoker, 2017). In some cases, poor management of an instructional design project can result in a negative impact on learning outcomes if instructional design projects are not managed effectively (Dick, Carey, & Carey, 2009). As work competition increases, and work becomes more complex and changes quickly, organizations cannot afford to have failed instructional design projects because the consequences could result in failure to meet learning needs and adapt to change.

## **Project Management**

Project management is one field of knowledge that could provide insight and strategies into how to manage instructional design projects effectively (Brill, Bishop, & Walker, 2006; Gardner, Bennett, Hyatt, & Stoker, 2017; Gardner, Chongwony, & Washington, 2018; Jovanović & Berić, 2018; Mustaro & Rossi, 2013; Tynan, Adlington, Stewart, Vale, Sims, & Shanahan, 2010; Williams van Rooij, 2013). Project management can be defined as the application of knowledge, skills, tools, and techniques used for project activities to meet or exceed project requirements (Project Management Institute, 2017).

One of the most well-known project management methodologies is the Project Management Body of Knowledge (PMBOK), published by the Project Management Institute, which includes standards and processes for project management practice and certification (Project Management Institute, 2017; Williams van Rooij, 2013). Projects are generally temporary efforts that work to activate change and add value for organizations (Project Management Institute, 2017). Processes utilized during project management draw upon ten knowledge areas. Project management knowledge requirements include managing integration, scope, schedule, cost, quality, procurement, communication, risk, human resources, and stakeholders (Project Management Institute, 2017). The PMBOK is a well-developed resource and has been used to help project managers create and manage change quickly (Project Management Institute, 2017).

## **Project Management in Instructional Design**

Some research exists related to instructional design and project management. Nall (2019) examined eight experienced instructional designers who had managed instructional design projects for at least one year to gain a greater understanding of their feelings and experience with managing instructional design projects. The results indicate that formal instructional design education, practical experience, communication, and initiating self-study of tools and techniques for organizing and managing multiple priorities were common precursors to career progression in instructional design project management (Nall, 2019). It was also recommended that instructional design or related degree programs offer project management courses to better prepare instructional designers to manage projects (Nall, 2019). Williams van Rooij (2013) used a Delphi approach to identify instructional design project management competencies in professional services from the viewpoint of eight executives. Instructional design and project management are categorized into two distinct professions that support organizations' objectives (Williams van Rooij, 2013). However, according to Williams van Rooij (2013), instructional design career advancement does not reflect the added responsibilities of many instructional designers. Williams van Rooij (2013) identified the top twelve ranked "must have" competencies related to instructional design, project management, work experience and education and training, and organizational factors and conditions. Gardner, Bennett, Hyatt & Stoker (2017) reported on a case study on the practical application of project management strategies used in a large content conversion project within a higher education institution. They found that project management standards supported positive interactions among the team that led to the creation of a shared "social identity" (p. 10) that appeared to increase commitment and unification. Other researchers have found that additional skills are necessary for effective project management including communication (Gardner, Chongwony & Washington, 2018; Williams van Rooij, 2013) and problem-solving skills (Brill, Bishop, & Walker, 2006). Project management in general involves planning the logistics for all phases of a project, defining the project goal, allocating personnel resources, organizing meetings, monitoring progress, follow-ups, and making decisions regarding project issues, team concerns, and quality standards (Ashbaugh & Piña, 2014).

Many scholars indicate that general project management skills are important for project success, but their findings appear to differ based on a variety of reasons such as industry, project type, and individual characteristics (Chipulu, Neoh, Ojiako & Williams, 2013; El-Sabaa, 2001; Fisher, 2011; Hyvari, 2006; Lampel, 2001; McHenry, 2008; Mishra, Dangayach & Mittal, 2011).

The purpose of this study is to identify and validate the most critical project management competencies for instructional design projects. The primary research question for this study includes the following.

**Research Question 1:** What project management competencies do instructional design professionals rate as most important for managing instructional design projects?

A further sub-analysis sought to determine significant differences in instructional design project management competencies based on roles and industries guided by the following:

**Research Question 2:** Do critical project management competencies for instructional design projects differ based on role?

**Research Question 3:** Do critical project management competencies for instructional design projects differ based on the type of industry?

## **Method**

This study consisted of quantitative research design using a new instrument to survey a sample population of instructional design professionals on the most critical instructional design project management competencies. The study was conducted using a two-part approach. First, a systematic review of the literature on instructional design project management was conducted to identify key project management competencies. Next, a survey instrument was created based on common themes identified during the systematic analysis of qualitative study results on instructional design project management competencies.

## Systematic Literature Review

The research began with a systematic review of the current research studies in instructional design project management. This review intended to identify the research-based instructional design project management competencies for instructional design professionals. Therefore, a targeted analysis of existing literature of project management competencies was used to identify common themes across existing studies in instructional design to inform question items for the survey instrument (Guest, MacQueen & Namey, 2012).

*Selection of articles.* A search of scholarly articles was conducted using research databases listed under EBSCO Publishing and ProQuest Dissertations and Theses Global database through Franklin University's online library catalog. The key terms "project management" and "instructional design" were selected to focus the results on scholarly articles on instructional design project management. The results provided 397 articles in the years 1999 to 2019. Because the development of the survey instrument took place in early 2020, later references were not included in the review. Exact duplicates were removed from the results, leaving 80 articles. Based on review and further analysis of these articles for research-based findings related to instructional design project management, and a total of 10 of the articles included studies that were relevant to the systematic analysis of the literature. The references for each of these ten articles were reviewed to identify additional studies in project management and instructional design, an additional 18 research studies were identified. A similar search was conducted using the ProQuest Dissertations and Theses Global database with a search for full-text doctoral dissertations in English between 2009 and 2019. This resulted in 29 total research reports, which are listed under Appendix A.

*Coding.* After the selection of articles was completed, articles were reviewed to identify specific project management competencies for instructional design professionals from existing studies. A competency is a measure of the ability to perform effectively using specific knowledge, skills, abilities, which are the components of performance (McHenry, 2008). Text segmentation was used to "...facilitate the exploration of thematic elements and their similarity, dissimilarity, and relationships" (Guest et al., 2012, p. 50). A key-word-in-context approach was used to "identify the word locus for a theme or concept in a body of text without predefining the textual boundaries of that locus" (Guest et al., 2012, p. 51). The exact text results from the study were tagged within a "structured compendium of codes" (p. 50). The considerations applied to determine which study results to tag were determined by semantic boundaries related to project management:

1. If the article defined some skills as project management, but others in a different category, the researcher only tagged those items that were categorized as project management.
2. If the authors cited previous literature about project management or described their own thoughts on project management, those items were not tagged. The researcher only tagged items that were a result of research studies.
3. If the authors shared the exact words written by participants, the researcher used exact wording (or sections of wording) as part of the tag.
4. If the authors summarized several items into one specific competency and presented it as a result, the researcher used it as part of the tag.
5. If the article lists instructional design competencies that were not identified as related to project management, the researcher excluded the results from the tag.

To establish validity evidence for coding, the second researcher reviewed the tags for face validity concerns and gave a few minor suggestions for improving criteria for coding articles. The process which the researcher used to link specific codes to the 487 tagged raw data included analyzing the text and assigning a code that summarized the competency. Five competencies were not relevant because they were either too specific or too broad and therefore not categorized in the primary coding sheet and excluded from further analysis.

*Categorizing Themes.* A thematic analysis was conducted to identify, analyze, and interpret patterns from the project management competency results. A theme is a “unit of meaning that is observed in the data” (Guest et al., 2012, p. 50) by researchers. The primary researcher independently conducted data reduction by synthesizing the raw data into themes based on an analysis of the common themes that emerged following the coding. The author began by identifying possible categories for each competency. The list resulted in 13 possible categories. In addition to the primary researcher, the second researcher, an expert in instructional design, reviewed and independently labeled 20% of the project management competencies to establish face and content validity of the project management competencies. After several iterations of reviews and revisions by both researchers based on constant comparisons with the data, the researchers decided to adopt the 10 project management knowledge areas espoused within the Project Management Body of Knowledge (PMI, 2017), as they appeared to align with the competencies identified in the review and are widely known and add legitimacy (Horine, 2005; PMI, 2017; Williams van Rooij, 2010). Definitions of each knowledge area category are listed in Table 1. In addition to the 10 PMBOK knowledge areas, an eleventh category was identified as Professional KSAs (Knowledge, Skills, and Abilities) of the individual project manager. These included professional KSAs that did not readily fall into one of the 10 PMBOK knowledge areas.

Table 1: Ten PMBOK Knowledge Areas (Project Management Institute, 2017)

<b>Knowledge Areas</b>	<b>Definitions</b>
Project Integration Management	Project Integration Management includes the processes and activities to identify, define, combine, unify, and coordinate the various processes and project management activities within the Project Management Process Groups
Project Scope Management	Project Scope Management includes the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully.
Project Schedule Management	Project Schedule Management includes the processes required to manage the timely completion of the project.
Project Cost Management	Project Cost Management includes the processes involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs so the project can be completed within the approved budget.
Project Quality Management	Project Quality Management includes the processes for incorporating the organization’s quality policy regarding planning, managing, and controlling project and product quality requirements, in order to meet stakeholders’ expectations.
Project Resource Management	Project Resource Management includes the processes to identify, acquire, and manage the resources needed for the successful

management	acquire, and manage the resources needed for the successful completion of the project.
Project Communications Management	Project Communications Management includes the processes required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and ultimate disposition of project information.
Project Risk Management	Project Risk Management includes the processes of conducting risk management planning, identification, analysis, response planning, response implementation, and monitoring risk on a project.
Project Procurement Management	Project Procurement Management includes the processes necessary to purchase or acquire products, services, or results needed from outside the project team.
Project Stakeholder Management	Project Stakeholder Management includes the processes required to identify the people, groups, or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution.

Relationships in the raw data were explored and synthesized over several weeks of iterative reviews and resulted in 82 synthesized competency statements for all 11 categories. As an example, the primary researcher noted independent but related research results of “Keep the project very organized,” “good organizational skills,” and “organizing, administration, and management of project” from the identified studies. These were synthesized into one statement: “Keep the project and the team organized.” To establish validity evidence for these synthesized statements, the second researcher reviewed the statements for face validity concerns and gave a few minor suggestions for improving the clarity of the statements.

### **Instrument Measurement**

Based on the 82 synthesized competencies from the thematic analysis of the literature on instructional design project management, a Likert scale survey instrument was developed using an ordinal categorical Likert response set of (1) Unimportant (2) Somewhat important (3) Important (4) Very important (Lavrakas, 2008). A four-point Likert response set was chosen to exclude the neutral option (Lavrakas, 2008). An open-ended question was included at the end of the survey to solicit additional responses that the respondents deemed important, but were not included in the survey. The survey consisted of five sections of the 82 Likert items. See Appendix B for the fully developed survey items.

## Validity and Reliability

The survey instrument was reviewed for face and content validity by three separate experts in instructional design and project management. To establish content validity, the survey was reviewed by subject matter experts using sampling-content validity and item-validity to ensure the breadth and depth of the survey items represent the constructs gathered from literature on the topic of interest. The survey was also piloted by several test users before being sent to the target population. Based on these tests, it was determined that face validity was established for the instrument. Tau-equivalent reliability was calculated to measure the internal consistency of the four-point scale for the survey items. The results were a Cronbach's alpha of 97% with an alpha of 0.05, indicating that the survey items produced reliable and consistent scores by individual respondents for similar items.

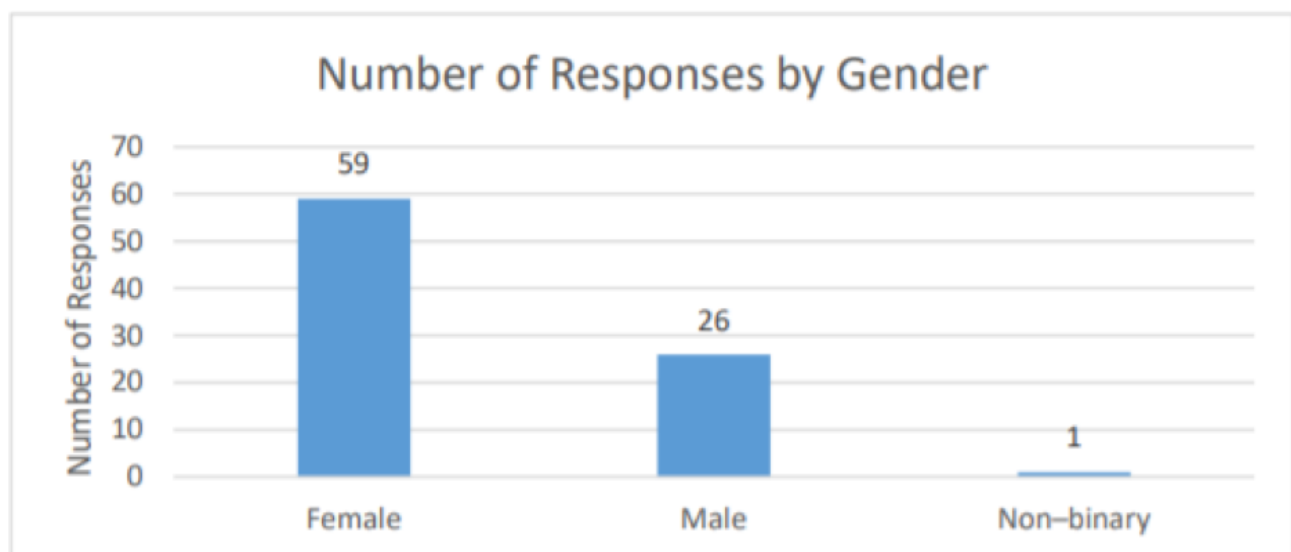
## Power and Size Determination

A power analysis was conducted using Raosoft Sample Size Calculator to determine the smallest sample size required to obtain statistical significance within the desired margin of error of 0.05 with a confidence level of 95%, a population of 488,000 instructional coordinators and training and development specialist, and a response distribution of 50%. The results indicated that a sample of 384 respondents was needed. An invitation to participate was sent to contacts listed for professional organizations, social media, and educational institutions.

## Data Screening and Cleaning

Data screening and cleaning of 90 initial entries of survey results were conducted to check for outliers, missing values, and to test statistical assumptions, resulting in a total 86 participants. A code sheet was constructed to translate the responses into numbers using a consistent and structured process (Fowler, 2014). Demographic data for years of experience, gender, and country of practice was collected and coded. Two respondents reporting less than one year of experience were removed from the dataset before analysis. Demographic data indicated that 69% of the participants were women, 22% of respondents have 20 or more years of experience and most of the respondents practice instructional design project management in the United States of America. Figures 1, 2, and 3 lists demographic data from the respondents related to gender, years of experience, and country where instructional design project management is practiced. Overall, the respondents have similar levels of experience.

*Figure 1 Participants by Gender*



*Figure 2 Years of Experience*



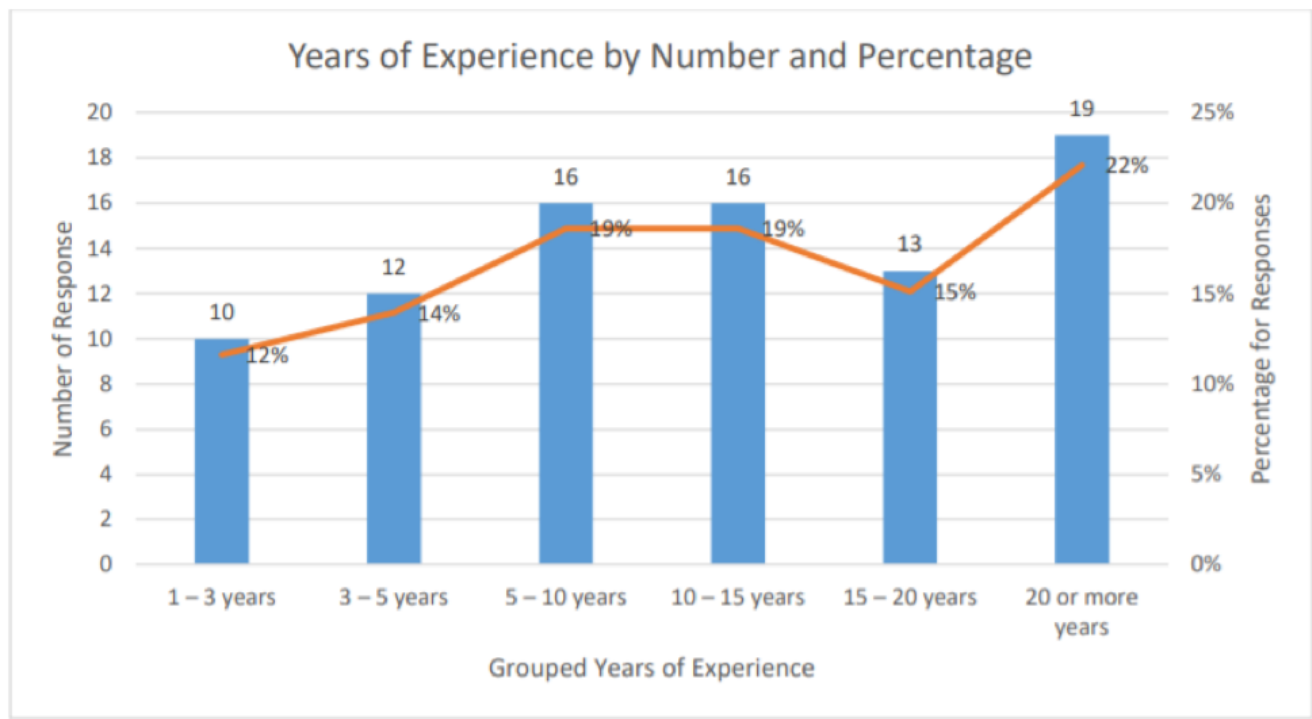
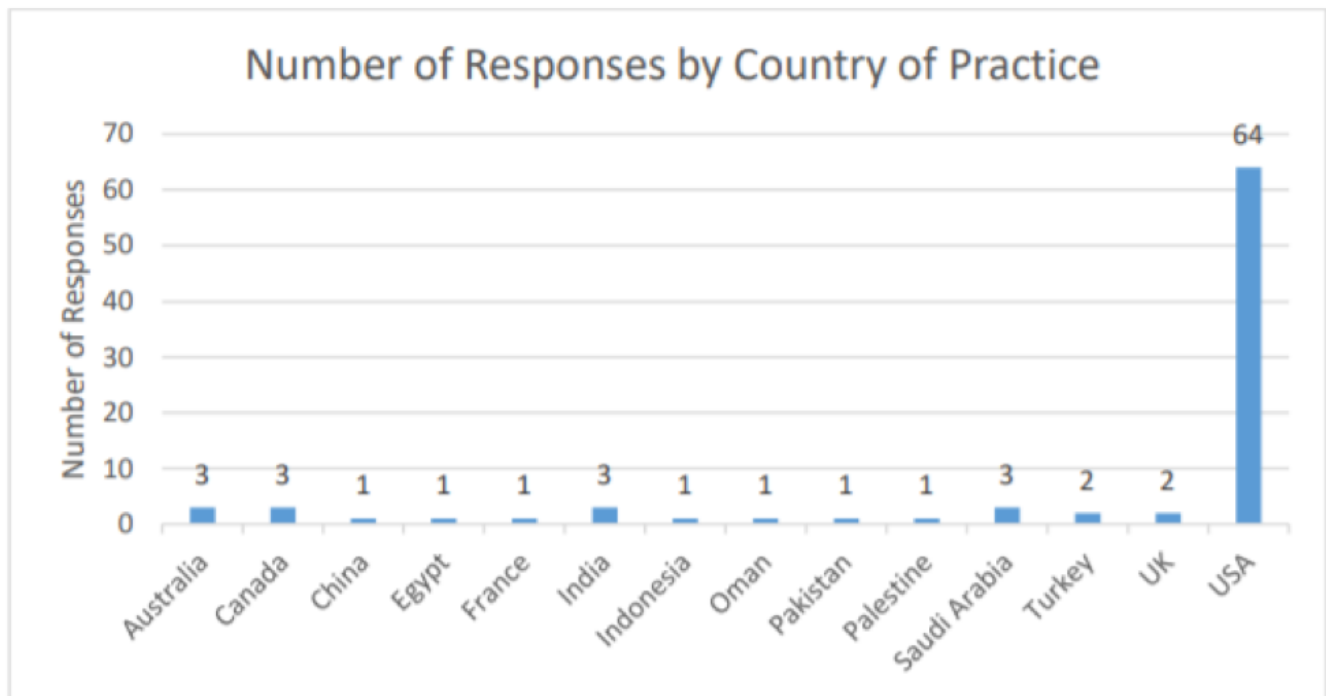


Figure 3 Country of Practice



The response options included: 4 for Very important, 3 for Important, 2 for Somewhat important, and 1 for Unimportant.

Test for statistical assumptions was conducted for normality and homogeneity of variance. A Q-Q plot was generated to test the assumption of normality. The observed values and expected values were plotted and indicated that the values were not normally distributed.

A Levene's test was conducted to test the homogeneity of variance between the instructional design project management competencies. The F-value was 55.73464 and the p-value is 0. We reject the null hypothesis of the Levene's test for homogeneity of variance because the p-value (0) is less than the level of significance (0.05) which indicates that the variances are not homogenous.



## Results

### Research Question #1

Research question 1 asked, “what project management competencies do instructional design professionals rate as most important for managing instructional design projects?” To answer this question, mean score of each competency was calculated and ranked in order from highest to lowest. The researcher selected the top six competencies for further analysis based on mean scores of 3.5 and above to identify top ratings based on the Likert scale indicating (3) Important and (4) Very important. Table 3 reports the mean for the top six instructional design project management competencies irrespective of role or industry.

*Table 3 Six Highest-Ranked Instructional Design Project Management Competencies*

Most Important Instructional Design Project Management Competencies	<i>M</i>
Practice ethical behavior by being honest, committed to project success, fostering trust, and integrity.	3.76
Keep the project and the team organized.	3.71
Remain flexible and adapt to changing environment and project variations.	3.71
Communicate effectively (verbal, written, and visual) with all stakeholders.	3.71
Ensure tasks are completed for each phase of the project.	3.65
Convey ideas clearly and concisely in writing, face-to-face, and virtually.	3.65

Out of the 86 respondents for this study, 53 reported higher education for their industry. We therefore report the top five results from these 53 higher education instructional design professionals in Table 4.

*Table 4 Top Five Instructional Design Project Management Competencies for Higher Education*

Higher Education	<i>M</i>	<i>SD</i>
Most Important IDPM Competencies		
Communicate effectively (verbal, written, and visual) with all stakeholders.	3.75	0.48
Practice ethical behavior by being honest, committed to project success, fostering trust, and integrity.	3.74	0.52
Remain flexible and adapt to changing environment and project variations.	3.72	0.53
Keep the project and the team organized.	3.68	0.47
Identify the project due date and critical decision points to accurately estimate timelines to complete tasks.	3.64	0.59

Research question 2 asked, “do critical project management strategies for instructional design projects differ based on role?” To answer the second question, the researcher grouped the roles into a categorical variable with three levels or groups: (1) instructional designer, (2) a manager of instructional designers, and (3) a project manager of instructional design programs. Further analysis utilizing Kruskal Wallis test procedures found no significant difference in each of the six most important instructional design project management competencies. A Kruskal Wallis test was used as a nonparametric procedure to determine if there was significant evidence of differences based on roles and industries.

*Table 5 Number of Selections for Each Role*

Roles	# of Selections
Instructional Designer	43
Manager of Instructional Design Team	19
Project Manager of Instructional Design Programs	22

Due to the imbalance in responses based on industry, with 20 in business, 13 in government/non-profit, and 53 in higher education, a comparison of responses between industries was not feasible. We therefore focus a part of our discussion on higher education, due to its higher rate of participation.

### **Interpretation and Discussion**

Our primary goal was to identify and validate the most important instructional design project management competencies in instructional design projects. The results of this study identified the top six competencies.

The highest rated competency as identified by participants in this study is *practice ethical behavior by being honest, committed to project success, fostering trust, and integrity*. This finding is reflected in some previous studies on project management in instructional design. For example, Kang & Ritzhaupt (2015) found that ethical judgment was reported in 10% of job announcements for educational technology professionals as a required ability. Monitoring ethical implications is an established standard for project managers by the International Board of Standards for Training and Performance Improvement (IBSTPI) (Richey, Fields, & Foxon, 2001). Project Management Institute

(2017) describes a code of ethics and conduct for professionals in the PMBOK concerning values held in the project management field. Values that are regarded as essential to project management include fairness, honesty, respect, and responsibility (Project Management Institute, 2017). Brill, Bishop, & Walker (2006) included ethical behavior in the top 10 project management competencies reported by practitioners to be effective, while Dainty, Cheng, & Moore (2003) identified honesty and integrity as competencies essential for measuring effective project management performance. Ethical conduct appears to be a critical component for instructional designers and project managers of instructional design programs for making better decisions that can build trust and allow organizations to adapt more quickly when faced with disruptive changes.

The second highest rated competency as identified by participants in this study is *keep the project, and the team organized*. This finding is consistent with the findings of other research, which found that the knowledge and skill to maintain organized instructional design projects and teams is important for instructional design professionals (McDaniel & Liu, 1996; Williams van Rooij, 2011; Gardner, Chongwony, & Washington, 2018; Kalvin, 2021). Creating and maintaining organized instructional design projects and teams is likely critical to instructional design project management because organized projects can increase effective integration of project processes (Project Management Institute, 2017).

*Remain flexible and adapt to changing environment and project variations* is the third highest rated competency identified by survey participants. The literature substantiates this finding by asserting that the ability to grasp quickly, adapt, and help initiate change within organizations is critical to effectively managing instructional design projects (Gardner, Chongwony, & Washington, 2018; Kang & Ritzhaupt, 2015; Allen & Hardin, 2008). Integrated decisions often must be considered and cannot be delegated to properly unify and coordinate the various processes for managing instructional design projects (Project Management Institute, 2017). Disruptions caused by globalization and technology are challenging organizations to contend with a greater level of uncertainty (Christensen, 2000; Gans, 2016), making this flexibility to change a key competency. Taking a proactive approach to incorporate the instructional design project management competency, remain agile, and adapt to change in instructional design projects can better prepare organizations and help maintain a competitive advantage.

The fourth highest rated competency identified by participants in this study is *communicate effectively (verbal, written, and visual) with all stakeholders*. The literature affirms the need for effective communication through all means with all stakeholders (Kline, Kumar, & Ritzhaupt, 2020; Gardner, Chongwony, & Washington, 2018; Kang & Ritzhaupt, 2015; Williams van Rooij, 2011; Williams van Rooij, 2013). It is conceivable that effective communication is critical to managing instructional design projects because multiple components and levels of complexity must be understood and effectively communicated to ensure the purpose and activities necessary for properly accomplishing the projects' goals are met (Project Management Institute, 2017). Some instructional design teams may consist of diverse groups of individuals involved in the project, not specific to instructional design. Instructional design project managers may have to be conscious of and consider effective communication for different cultures, languages, and networking technology used by geographically diverse team members and stakeholders.

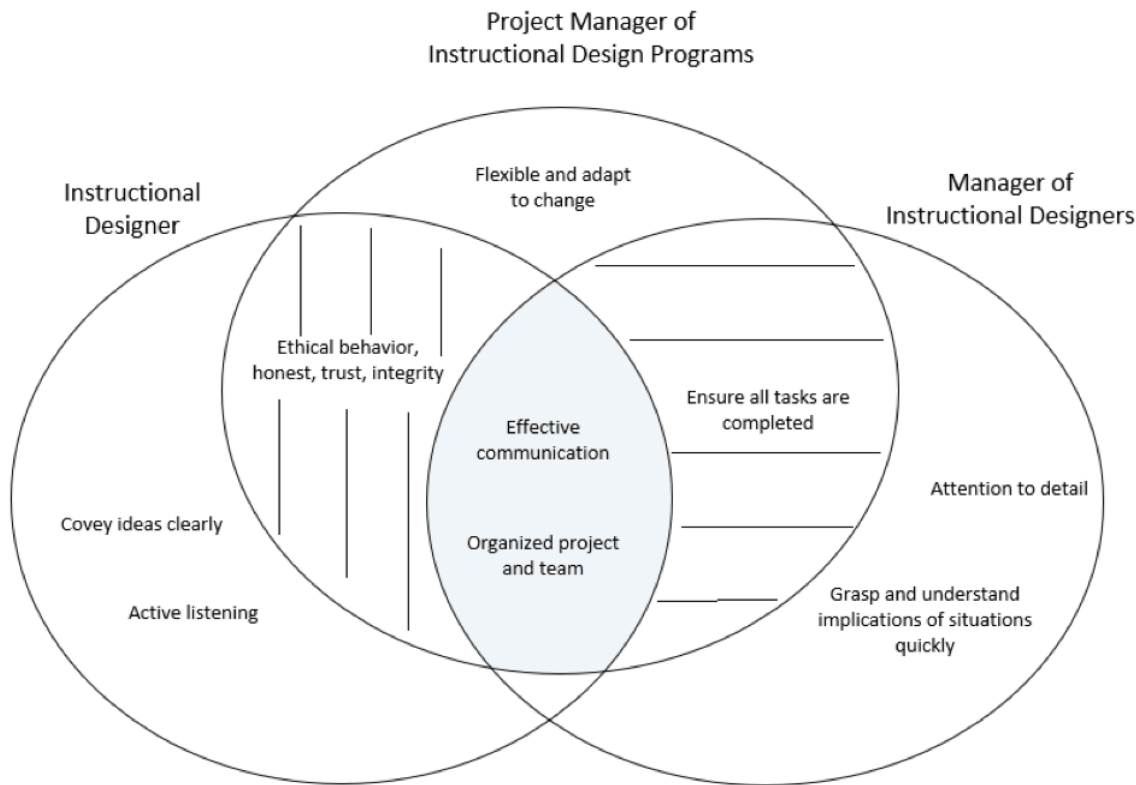
The fifth highest rated competency as identified by participants in this study is *ensure tasks are completed for each phase of the project*. The literature supports this finding as an essential competency standard for effective instructional design project management (Project Management Institute, 2017; Williams van Rooij, 2013). From a practical standpoint, task inputs and outputs must be completed by a series of systematic activities to get results that may lead to other phases to accomplish the overall project objective. Project Management Institute (2017) describes the project manager's overall role as the leader of the project team "monitoring and controlling the work of producing the products, services, or results that the project was undertaken to produce" (Comparative Overview of Portfolios, Programs, and Projects, Table 1-2). Perhaps this is due to the temporary nature of projects requiring tasks to be completed to get to a definite end in which the

instructional design project manager is responsible.

The sixth highest rated competency as identified by participants in this study is *convey ideas clearly and concisely in writing, face-to-face, and virtually*. This finding is not specifically included in existing instructional design project management studies. The ability to express ideas clearly and concisely is identified in other studies on project management's successful practice is one component of the broader category for effective communication (Gardner, Chongwony, & Washington, 2018; Henderson, 2008; Napier, Keil, & Tan, 2009; Williams van Rooij's, 2011). Williams van Rooij (2011) found that being proficient in conveying and translating training design to others ranked as key for instructional design professionals career advancement to instructional design project management. Gardner, Chongwony, & Washington (2018) discuss some communication competencies specific to higher education. The competencies focus on engaging the audience in relatable terms when communicating through writing and speaking to explain priorities and decisions. Communicating with tact and promoting healthy feedback is another competence. The top two communication competencies, effective communication and conveying ideas clearly and concisely are very similar, and perhaps effective communication was rated higher because it is different in that it encompasses the overall skills necessary for communicating effectively.

Our second goal was to determine whether critical project management strategies for instructional design projects differ based on role or industry. Although there is no statistical significance in differences for questions two and three, a comparison of the top five instructional design project management competencies based on each role are depicted in Figure 5.

Figure 5 Comparison of Common Top Competencies for Roles



### Implications for Instructional Design Project Management Research

A comparison of the six highest-ranked competencies for the main research question with the five highest-ranked competencies for roles and higher education is shown in Table 6. Instructional designer rankings aligned with four of the six critical instructional design project management competencies. Three rankings from managers of instructional designers aligned with the top four instructional design project management competencies. Project managers of instructional design

programs align with the top five, and higher education aligns with the top four instructional design management competencies. This appears to demonstrate some level of agreement among the various groups.

*Table 6 Highest-Ranked Competencies Compared by Roles and Higher Education*

<b>Roles /Industries</b>	<b>Overall Top-Ranked IDPM Competencies</b>					
	Practice ethical behavior by being honest, committed to project success, fostering trust, and integrity.	Keep the project and the team organized.	Remain flexible and adapt to changing environment and project variations.	Communicate effectively (verbal, written, and visual) with all stakeholders.	Ensure tasks are completed for each phase of the project.	Convey ideas clearly and concisely in writing, face-to-face, and virtually.
<b>Instructional Designers</b>	1	5	N/A	2	N/A	4
<b>Managers of Instructional Designers</b>	N/A	1	N/A	2	4	N/A
<b>Project Managers of Instructional Design Programs</b>	5	2	1	3	4	N/A
<b>Higher Education</b>	2	4	3	1	N/A	N/A

This study provides some support to the validation of the findings of previous research with a broader audience of instructional design professionals in higher education. Importantly, it provides further insight into the critical competencies applicable to instructional design project management in higher education. This study also provides the framework for future research using systematic reviews or syntheses of existing literature to identify and validate the most important competencies in a sector.

### **Suggestions for Further Research**

This study sought to validate and rank the most critical instructional design project management competencies. Because of the higher participation by professionals in higher education, the study does provide further insight into the most critical instructional design project management competencies based on higher education's instructional design roles. Future research to validate and rank the most critical instructional design project management competencies based on roles and those with multiple roles within multiple industries could further establish the most critical competencies. This increased clarity could provide practitioners with effective practices and expand education and practice in instructional design.

Additional suggestions for future research include conducting a randomized sampling approach and finding ways to increase the response rate to generalize the findings to a broader audience. Another suggestion for future research includes conducting systematic reviews or syntheses of instructional

design project management literature to generalize to a larger audience. Finally, conducting a meta-analysis of the most critical competencies across industries is a suggestion for future research.

## Conclusion

Globalization, technology, and pandemics are disruptors to the nature of work requiring organizations to adapt quickly (Djankov & Saliola, 2018). To aid in supporting employee learning and adaptation, many organizations employ instructional designers to create training, to develop performance solutions, and to lead learning initiatives. Instructional design is inherently complex (Dick et al., 2009), and project management is one field of knowledge that could provide insight into and strategies for managing instructional design effectively. This study provided methods for systematic reviews or syntheses of instructional design project management literature. The study found that the highest ranked instructional design project management competencies were practicing ethical behavior, keeping projects and teams organized, remaining flexible and adaptable to change, and demonstrating effective communication. Future research and application of instructional design project management will help organizations quickly adapt to disruptions and effectively manage the changing landscape of work and the workforce.

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## **Appendix B: 82 Competency Statements**

Table 7 Competency Statements

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### **Instructional Design Project Management Competency Statements**

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Ensure tasks are completed for each phase of the project.

Keep the project and the team organized.

Establish and document relevant processes for accomplishing the work.

Break large tasks into smaller, manageable chunks.

Maintain and use a change management process that includes specific criteria for change requests throughout all phases of the project.

Coordinate effective execution of key tasks by the project team. Use and direct project team to use relevant processes consistently throughout the project.

Manage transitions for each phase of the project from planning, kickoff, project charter, scope, schedule, costs, lessons learned, and post-project evaluation review.

Remain flexible and adapt to changing environment and project variations.

Engage stakeholders in key changes and decision making.

Keep the project moving forward by monitoring progress and making needed adjustments.

Maintain a balance between resources, budget, and product features.

Manage and coordinate multiple projects.

Understand the business case for the project.

Define the project vision, mission, and goals.

Define the project scope.

Develop scoping plans using historical data from knowledge repositories, where applicable.

Prioritize project restrictions based on legal and contract management knowledge.

Align project activities with the overall vision of the project.

Use the historical schedule and After-Action Review data from knowledge repositories to develop WBS, if available.

Analyze the characteristics of the project environment, context, and constraints.

Develop a work breakdown structure of the detailed workflow processes and effectively assign responsibilities.

Intervene when necessary to bring order out of sometimes chaotic or ill-defined goals. Understand the project life cycle.

Define all activities required to complete the project from planning, testing, commissioning, and final handover.

Identify the project due date and critical decision points to accurately estimate timelines to complete tasks.

Use scheduling tools and software to keep track of resources and monitor the progress of the project.  
Create a project schedule plan.  
Prioritize resources with project schedule to complete the project on time.  
Validate project budget using historical cost data from similar projects.  
Accurately estimate project budget.  
Ensure that the project team and sponsors clearly understand the project costs relative to resources and project timeframe.  
Track project costs and manage the budget to control costs.  
Identify product requirements and quality standards.  
Document baseline requirement criteria for products.  
Evaluate products to ensure the outcomes are consistently meeting quality standards.  
Understand the tools used by team members to complete assigned tasks.  
Define roles and responsibilities.  
Analyze resource needs and availability.  
Determine the average amount of time it takes team members to complete assigned tasks.  
Secure the appropriate resources to meet the requirements of the project.  
Assign roles and responsibilities based on team member strengths.  
Remove resource barriers to allow team members to focus on completing assigned tasks.  
Identify staff development needs.  
Facilitate team building activities to support a united vision for the project.  
Encourage and support team members to take ownership of their work.  
Practice good people skills by motivating team members based on individual temperaments.  
Encourage collaboration and understanding to support the needs of the team.  
Empower the appropriate team members to take responsibility for assigned tasks and make decisions on behalf of the project manager.  
Achieve production targets by efficiently allocating resources for the project.  
Create a communication plan that includes the project vision and goals.  
Outline information collection and distribution channels to all stakeholders and ensure timely and appropriate provision for communicating positive and negative performance feedback.  
Create processes to consistently document critical decisions in a central repository.  
Archive historical and maintenance information.  
Provide the big picture.  
Communicate effectively (verbal, written, and visual) with all stakeholders.  
Use active listening skills.  
Practice and support open communication with all project team members.  
Effectively decode and encode information with an open mind to understand all stakeholders.  
Tailor a message to a specific audience.  
Convey ideas clearly and concisely in writing, face-to-face, and virtually.  
Communicate with all stakeholders regularly.  
Understand safety, health, and environmental risks.  
Document issues and risk management mitigation strategies.  
Take action to minimize the impact of issues and risks.  
Foresee potential risks.  
Grasp situations quickly and understand their implications.  
Preemptively mitigate the impact of potential risks.  
Ensure the safety and wellbeing of project teams are managed effectively.  
Procure the needed resources for the project.  
Identify all stakeholders and manage expectations.  
Create systematic patterns and methods for communicating and conducting reviews for projects.  
Build strong relationships with all stakeholders through communication, obtaining validation, and understanding stakeholders' needs and the parameters of the project.  
Have a clear understanding of the role and responsibilities of an instructional design project manager.  
Demonstrate technical understanding and skills unique to the industry.

Apply business analysis skills. Demonstrate excellent negotiation skills.  
Apply strategic and tactical planning skills. Demonstrate attention to detail.  
Be aware of and continuously work to increase emotional intelligence.  
Practice ethical behavior by being honest, committed to project success, fostering trust, and integrity.  
Lead project teams.

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[Back to the Online Journal of Distance Learning Administration Contents](#)