

Project Management - A Survey of Faculty Attitudes Regarding Curriculum

Dennis Bialaszewski
Indiana State University
Terre Haute, Indiana, USA
DBialaszews@indstate.edu

Anna Krutik
Indiana State University
Terre Haute, Indiana, USA
akrutik@sycamores.indstate.edu

ABSTRACT

Many are directly involved in the completions of projects through employment responsibilities, community organizations, or hobbies. However, many may never realize that there are some very sound tools and skills that may maximize the completion of a project in a quality manner. In this paper, faculty attitudes regarding the importance of Project Management material and its placement into a curriculum are provided as well as a suggestion to re-examine its current placement to determine if it is in the best position to prepare students for successful career.

INTRODUCTION

Project Management has been practiced for years and existed in many parts of science and businesses, but only recently has it obtained frameworks, structure, systematic tools and techniques to implement projects [11]. Any venture or innovative product cannot be introduced into the modern world without effective Project Management. Entrepreneurs and executives manage companies and projects on a daily basis, so it is vital to employ Project Management skills into the routine to perform well in today's competitive market.

For the purpose of the study, Bialaszewski's definition of Project Management will be used, "Project Management is the area of management where plans are set to achieve a particular goal and where the process includes defined phases: initiation, planning, execution, and closing. Also Project Management involves the application of various skills and techniques in the areas of communication, time management, organization and budget." [5]

Projects are temporary in nature and usually are designed for new and unique products and services. Project managers have to possess knowledge and expertise to carry out the plan and deliver high quality products. Another part of their responsibilities is to connect people within the organization, who are to operate as a team for a short period of time. The timeline and budget are essential for any project, clearly stated deadlines for each stage of the project, forecasted

anticipated costs and wisely planned funding can be crucial for completion of the project (Harbour, 2013). Thus, Project Management plays an important role in modern business.

MOTIVATION FOR STUDY

Global Overview on Project Management Issues

Klynveld Peat Marwick Goerdeler (KPMG), a world known professional firm providing audit, tax and advisory service, continuously examines the Project Management issues. In 2005 KPMG involved more than 600 organizations in 22 countries – from Asia to Europe to America in a survey related to the practice of project management. The KPMG study covered different industries such as energy and natural resources, government, consumer and industrial markets and so on. Key questions of the survey included: project governance, project and program management practices, project success and failure and well as other related topics.

KPMG experts highlighted that only few companies invest in project management capability development. As a result, it was discovered in 2005 that 49 surveyed companies had at least one project failure within a year and only two percent achieved targeted plan all of the time. Furthermore, eighty six percent of participants lost about 25 percent of their benefits in their project portfolio [9].

KPMG consultants discovered the problems of Project Management that occurred in 22 countries. Their implemented survey gave evidence that organizations and scholars across the world have to tackle these issues.

After analyzing a KPMG survey completed in 2013 in New Zealand, KPMG experts concluded that, in the present challenging economic situation, organizations do not invest sufficient funds in the project management area for gaining competitive advantages. For example, the average reported spending per project was NZ\$15m [about 12m US dollar] – and that the survey result indicated that only one-third of that spending is actually for delivering the desired outcome. [10]. This finding indicates the waste of resources and raises the issue of the discipline of Project Management and business value of the projects.

Local Overview on Project Management Issues

At the same time there is evidence for the lack of Project Management skills of graduates on the college and university level. The realization for the need for developing skills in the Project Management area was made clear based upon feedback from a Corporate Advisory Board that was structured to provide advice to the development of business majors at a Midwestern university. The Board stated that they believed that the biggest weakness in graduates was in the Project Management area. Furthermore, they saw this as a weakness in graduates of many majors and not just business majors. Whereas, the Advisory Board included several in technical areas such as a VP of Telecommunication for State Farm Insurance and the Director of Recruiting at Caterpillar, for all non-engineering positions, it included business leaders from both large firms and even some very small businesses.

The Advisory Board was instrumental in helping to redesign an introductory MIS course.

At the time, this introductory MIS course was a general education course offered to all majors in the university. Although traditional topics were covered, the focus was on several small projects. Thus, students were able to work in several different teams over the course of a semester. This was not at the expense of reducing important material. The pedagogy for this course may be found in the article *Education and Project Management: The Intro to IS Course* [4].

It is this paper's contention, based on input from industry leaders and KPMG research, that skills of Project Management are important for all majors and should not just be a focus for the business disciplines. It is also the contention of this paper that Project Management material should be included in lower level courses, perhaps general education courses, in order to provide important knowledge to all graduates of the universities.

SURVEY OBJECTIVES AND STUDY DISCRIPTION

The purpose of this study is to get a snapshot of the perspectives of the faculty as it related to the project management area. Specifically, to see faculty attitudes regarding the current teaching of Project Management skills and, also, to determine where university faculty believe the best place is in an undergraduate program for these skills to be taught.

The first step in the research was to determine the sort of school to be surveyed. For our first attempt at research into this area, it was decided to limit respondents to schools with the Association to Advance Collegiate Schools of Business (AACSB) accreditation. It is planned to enlarge the survey, adding non-AACSB schools in the future. The authors are affiliated with a school in the Midwest and it was decided to limit the first study to schools in the same area for the purpose of comparison. The definition of the Midwest, as defined by the U.S. Census Bureau, lists the region as the following 12 states: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin [6]. There are 112 AACSB accredited schools in the Midwest Region.

The next step was to identify the contact who might be the best person to send the survey to. It was decided to send the survey to the Dean in the College of Business and also to the Chair of an MIS department, if one existed. Furthermore, the recipients were directed to forward the survey to the most appropriate respondent for the university. The process was a somewhat tedious and time consuming step, as university web sites would need to be scrutinized for the best possible respondent and then to obtain appropriate e-mail addresses. There were nine universities that only provided an embedded manner to send an email to the Dean and did not provide a direct e-mail address. Subtracting those nine left a pool of 103 universities to send the survey. A separate e-mail address of the form research@indstate.edu was structured to lend legitimacy to our research effort.

Demographics were also captured, such as whether an MBA or a Ph.D. was offered at the school. Further analysis of other demographical data is left for a future study.

The following is the text of the initial email sent:

Dear Dr.,

Based on comments from our Corporate Advisory Board a weakness in our graduates is in the area of Project Management. At our university we have begun to incorporate Project Management skills into our sophomore Information Systems course, which is required of all business majors. Moreover, Project Management material is also required in a more general Introduction to Information Systems course, which is taken by many majoring outside of the College of Business, and in particular taken by students considering obtaining a minor in Business Administration. We are committed to undertaking some basic research to determine how other AACSB schools are approaching this subject matter. Please take a few minutes to respond to the following questions in this research effort or please forward this survey to the person who you believe to be the best to respond to the questions below. We will gladly send a completed copy of our research upon request.

Thank you for your time in this research effort.

Please answer questions 1 through 8 using the following scale of 1 through 5 where 1 = strongly agree, 2 = agree, 3 = neutral or no opinion, 4 = disagree and 5 = strongly disagree

1. Project Management skills are important for all undergraduate business majors _____
2. Project Management skills should be required for all undergraduate business majors _____
3. We do require Project Management skills of all of our business majors _____
4. We embed Project Management material into at least one of our required courses _____
5. We require a specific course in Project Management of all our undergraduate business majors _____
6. Project Management skills are taught to our business students prior to placing them into their first group project _____
7. Students are taught the concept of budgeting additional time allotted for unforeseen events when planning to complete a project _____
8. I feel it is necessary to complete several prerequisite courses prior to our students being introduced to project management material _____
9. Our students do complete several courses prior to being introduced to Project Management concepts _____

Please select the best choice for the final 2 questions:

10. The best level to first introduce Project Management material is at the:
FRESHMAN SOPHOMORE JUNIOR SENIOR class level.

11. Our business majors are first introduced to Project Management skills at the:
FRESHMAN SOPHOMORE JUNIOR SENIOR class level

EVALUATION

Being aware that Deans and Chairs had busy schedules and as it was nearing the end of a semester, it was decided to send the survey multiple times. The initial survey was sent to the 103 universities on April 4th, 2013, which included the Spring Break period for many schools. A total of 134 possible respondents were included in the initial emailing. A second email, with a slightly changed narrative, was sent on April 24, 2013 and a final attempt at collecting the data was made on May 8, 2013. There were a total of 47 respondents for a response rate of 46 %. However, some of the replies were "out of office " responses, while others provided unusable data as responses which provided a narrative rather than using a scale of 1 through 5 were provided. . There were thirty-seven usable responses, which yielded a response rate of 36 % for the analysis in this study.

The first question related to the importance of Project Management for undergraduates. Although some may believe it to be a given that project management skills are important, it was found necessary to obtain actual empirical support for this belief. The results can be seen in the Appendix 1 – Chart 1.

Not all representatives from a College of Business agreed that Project Management skills are important for their undergraduates, as 16 % (6 of 37 respondents) did not select some level of agreement. Eight percent of the respondents actually disagreed with Project Management being important for undergraduates, which was an unexpected response.

Based on Advisory Board input to one Midwestern College of Business, the conclusion was made that Project Management skills should be required for all of undergraduate students. However, the question remains whether all AACSB accredited universities in the Midwest have the same conclusion. Chart 2 of the Appendix 1 represents the results that were obtained when surveying whether these skills should be required of all undergraduate students.

Only 23 out of the 37 respondents (or 62 %) believed that Project Management skills should be required. Thus not all of the 31 respondents who felt the PM material was important also felt that this should be required of all majors!

The third question asked was if these skills were being required by business majors. They could be required in a course within the major or in whatever manner the school placed it into their curriculum. The results obtained are in Chart 3 Appendix 1.

A representative from one university did not respond to the question. Thus, only 18 of the 36 respondents actually required project management material at this time. However, in the

preceding question 23 respondents believed that these skills should be required. That is 22 % who felt that it should be required, have not actualized the requirement.

The next question was another attempt to determine whether Project Management skills are being taught. The question asked whether the skills are embedded into a course that is required. The results can be found in Chart 4 Appendix 1.

One university did not respond to this question. Although there were universities that do not believe these skills should be required, there were universities that felt that a specific course in Project Management should be required for their universities. Chart 5 demonstrates that there were universities that have structured such a course. One respondent did not answer this question. Thus the majority of respondents do not believe that a specific course titled project management or some similar title needs to be structured.

One question that the survey did not ask was whether or not students were ever placed into group projects in their courses. The assumption was made that group projects were occasionally given to students. However are project management skills being introduced to students prior to actually working on their first group project? Chart 6 presents the results to that question.

The overwhelming result was that students are being placed into group projects without ever first being taught the skills needed for quality Project Management. This strategy used by the majority of academics seems counterproductive.

The next question asked dealt with a very particular Project Management aspect that has been used with great results in some university classes. Budgeting is extremely important, however, budgeting deals not only with money, but with time. And although one attempts to enumerate all things that can take up time or money, there will always be unexpected events that will upset a schedule.

In 2008 Sauer, Gemino and Reich surveyed 650 experienced project managers from the U.S. and U.K. and found out the following interesting facts. While projects that do not experience personnel changes face 22 % of risk of underperforming, projects that experience two or more personnel changes face a risk of more than 50 %. Another finding is that projects are usually undergoing about eight changes in schedule, budget and scope. As a result the projects extend the term by approximately 10 % of initial deadline. The researchers also underlined that the larger the project, the more the volatility, which results in lower level of performance [12].

A representative from Kendall Hunt Publishing stated that usually 10 to 15 % of the project budget is for unexpected costs with this estimated based upon projects from the experience of that representative. [Doug Kovell, personal communication, May, 2013] However, it has been surmised that the amount of time for unplanned events may vary depending on the complexity of the project. So, to consider this budgeting concept for both time and money is a necessary skill for students to have in the real world and should be supported within their college curriculum.

The teaching experience of the primary author also provides an example about delays caused from unforeseen events. Students can submit work early but cannot submit assignments late. They find many excuses such as problems with printing or with the Internet. Students should be

encouraged not to wait until the last minute before trying to complete an assignment. Whereas, submitting an assignment late in a class may result in F grade, completing a project late in the real world may result in getting them fired from their job. Thus, developing the budgeting skill for unforeseen events planning is critical for the students to develop. It was the author's interest to determine if universities in the Midwest develop the skills of budgeting for unforeseen events. The results can be considered in Chart 7 Appendix 1.

Thus, less than half of the respondents agree that they are teaching the concept of allotting time for unforeseen events. Perhaps the assumption is that allotting time for unforeseen event is a given. However, experience in the classroom has provided the primary author many examples where failing to allot time for unforeseen events has been an issue. A true-false question typically asked in a class quiz is "If one plans very carefully, one does not have to budget for unforeseen events." An unexpected result is that not all students answer this question correctly. It is also necessary to note that many business leaders have also provided several examples of how projects have failed because time was not allotted for unplanned events and yet this concept is often not reinforced in college courses.

The next question asked dealt with the need for prerequisite courses prior to being introduced to Project Management concepts. Classroom experience and Advisory Board feedback strongly suggest that there is no need for prerequisite courses prior to teaching foundational Project Management concepts. Sometimes in the academic world, a teaching method is followed, not because it is the most effective manner, but because that method has been followed for years. It is also noted that the academic realm emphasizes research and at times mundane committee work without allotting appropriate time to learn new pedagogies or taking part in faculty development efforts.

At this time, only 14 of the respondents disagreed to some level with the idea that many prerequisite courses are needed prior to being introduced to Project Management concepts. That is 38 % of the 37 who responded to this question disagreed with the belief that many prerequisite courses are needed prior to teaching project management concepts. Perhaps a further study would determine why it is felt that a multitude of prerequisites are needed prior to being introduced to Project Management concepts. The results obtained are demonstrated in Chart 8 Appendix 1.

Another aspect explored was the appropriate placement of Project Management concepts into the curriculum. This was achieved by asking whether many courses are taken by students prior to being introduced to Project Management concepts. What was found is that Project Management concepts are introduced later in the students' curriculum. Chart 9 shows the results obtained.

The research found that some of the universities that have Project Management concepts introduced later in the curriculum believe that the concepts should not be introduced earlier, which is shown in Chart 10 Appendix 1. There is a distinct split amongst the responses as 16 respondents felt that introducing the concepts at the lower level is best, but 19 respondents felt that introducing these concepts at the upper level is preferred. Two respondents did not answer this question and there were three respondents who did not think introducing the Project Management concepts were important. The survey neglected to provide a choice "do not introduce" to question ten.

The survey asked at which class level students are introduced to Project Management concepts and Chart 11 represents the results.

Seven respondents did not reply to this question, which is understandable as some universities do not require Project Management concepts to be taught. What is most noteworthy is the fact that, although 16 respondents felt that it is best to introduce these concepts at the freshman or sophomore level, only seven respondents stated that these concepts were being introduced at those levels.

CONCLUSION

It has become widely known that graduates are entering the workforce without Project Management skills. Although there is only one Advisory Board bringing this to the authors' attention, that Board is represented by companies such as State Farm Insurance, Eli Lilly, Caterpillar Corporation, NSC Systems Corporation, Digital Audio Disc Corporation, Andersen Consulting (Deloitte and Touch) as well as many others including some small businesses.

Taking into account the fact that Project Management skills are crucial and necessary today for business managers, most of the surveyed schools agreed about its importance, however, there were eight percent of respondents who disagreed. Furthermore, about 20 % of schools disagreed that Project Management should be required for undergraduate students, and only 18 of the 36 respondents actually require these course. The unexpected result was that most of the respondents believed that there is no need in teaching Project Management before placing students into project groups. The importance of budgeting for unforeseen events was discussed in details earlier, but less than half of the schools responded that they teach the concept of allotting time for unforeseen events.

Also it was discovered that teaching Project Management concepts at a lower level is not the norm. If it is decided that it is in the best interest of the students to teach these concepts at the lower level, then the next question is the placement of these concepts into the curriculum. The Midwestern University, the authors are affiliated with, has placed it into a lower level introductory course with success and positive feedback from Corporate Advisory Board members. Each school can determine what is best for their curriculum, but this paper encourages each school to reflect on when these concepts should be taught. The teaching of these concepts can either be found in required courses or through general electives in the program. There are many short projects in the courses that need group decisions. Participating in group work in the short projects is found beneficial as these activities gain Project Management skills. The process of having defined deadlines and results for a group decision allows one to instruct and fortify Project Management concepts.

The hope of this study is that this research has supported the path of total quality improvement as curricula are developed for students. It is the expectations of the authors of this paper that the reader will re-evaluate the need for and the placement of Project Management concepts.

APPENDIX 1

Chart 1

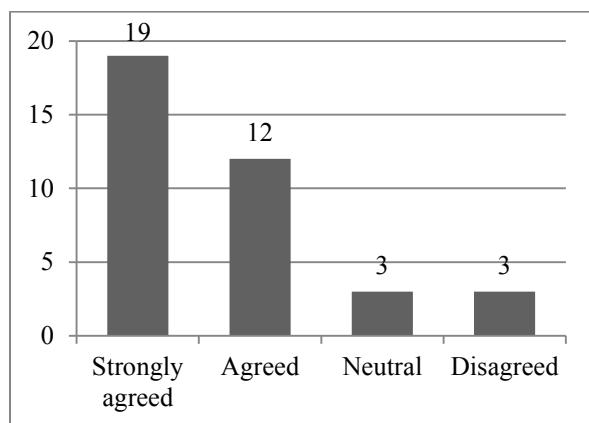


Chart 2

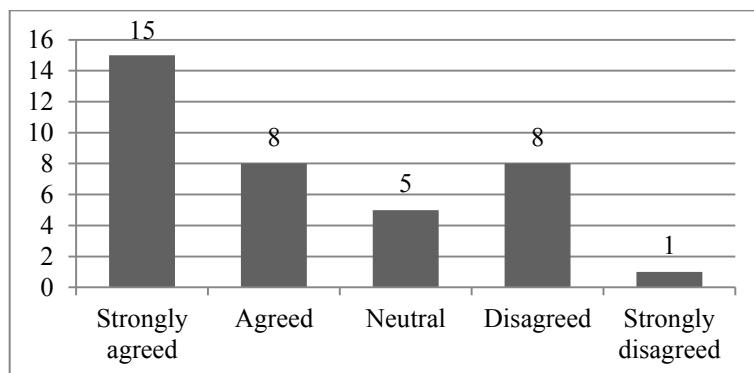


Chart 3

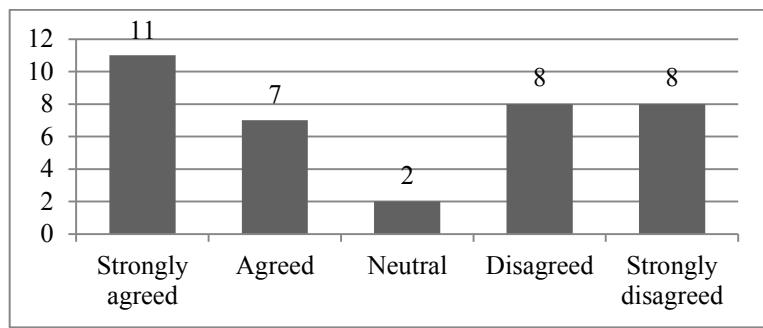


Chart 4

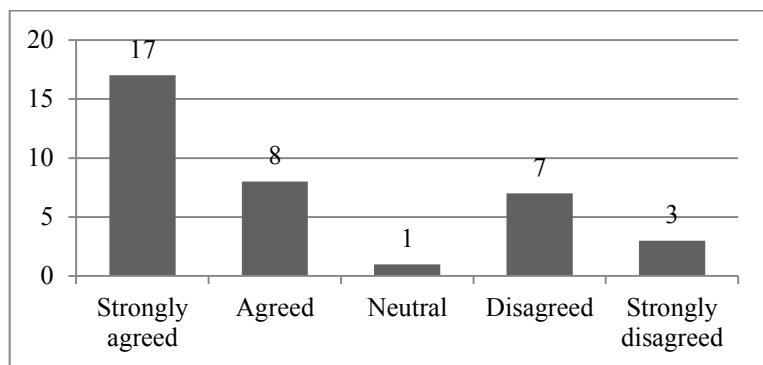


Chart 5

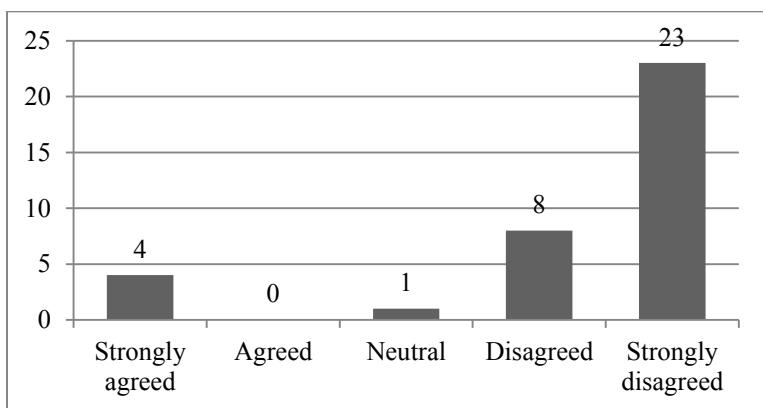


Chart 6

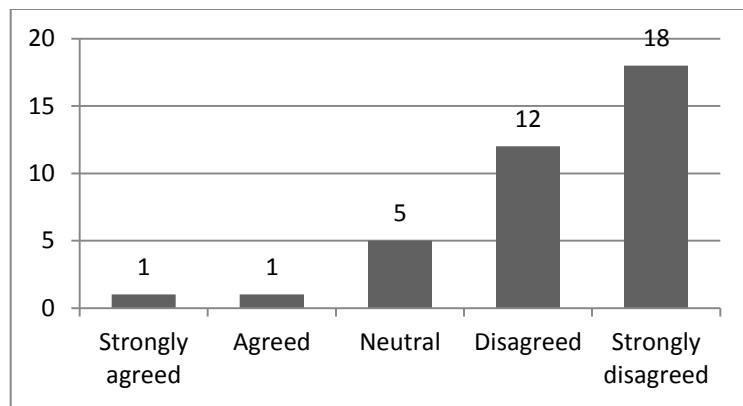


Chart 7

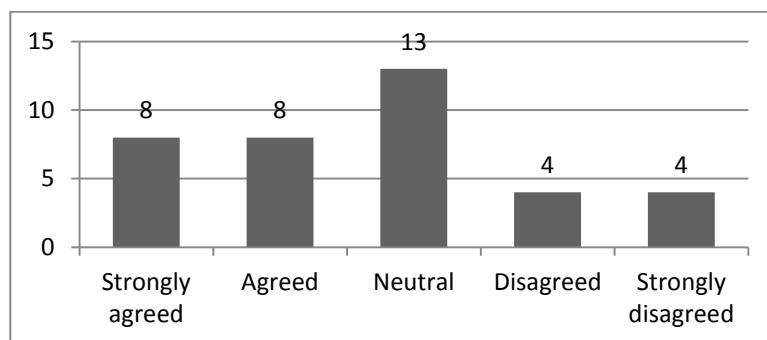


Chart 8

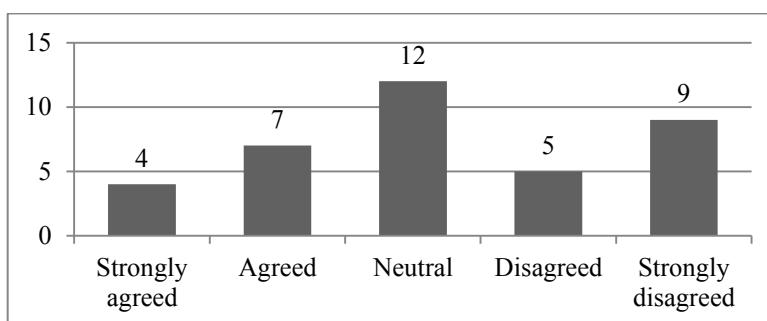


Chart 9

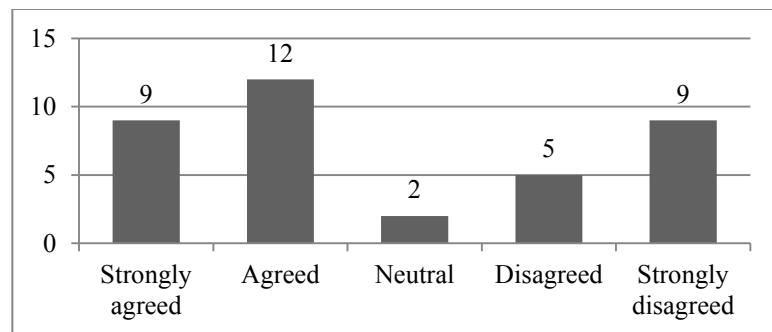


Chart 10

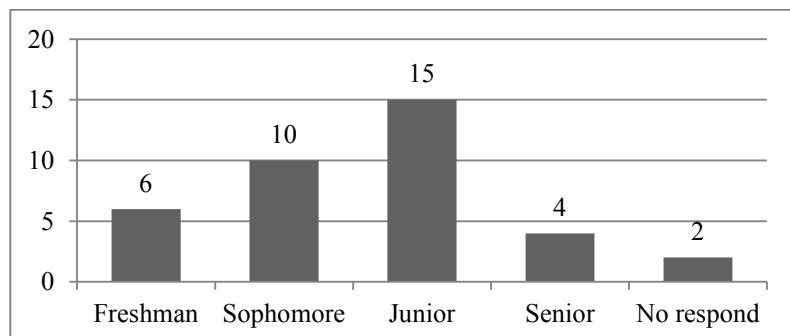
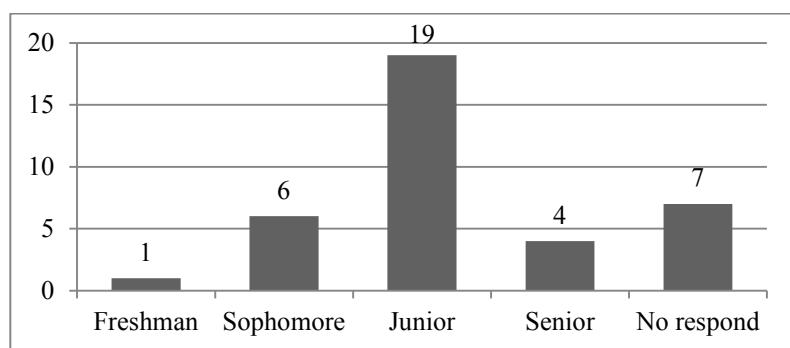


Chart 11



REFERENCE

1. Bialaszewski, Dennis and Bialaszewski Marsha. (2001, November) A Need for a New Introduction to IT Pedagogy: Project Management. Paper presented at Academy of Business Disciplines (ABD), Ft. Myers Beach, FL
2. Bialaszewski, Dennis and Bialaszewski Marsha. (2001, June) IT and Project Management: The new IS Literacy. Paper presented at Informing Sciences Conference, Krakow, Poland
3. Bialaszewski, Dennis and Bialaszewski Marsha. (2003, August) Education and Project Management: The Intro to IS Course. Paper presented at the International Conference on Education and Information Systems, Technologies and Applications (EISTA), Orlando, FL
4. Bialaszewski, Dennis and Bialaszewski Marsha. (2010) Education and Project Management: The Intro to IS Course, *Journal of Systemic, Cybernetics, and Informatics*, 8 (4). 1 – 75.
5. Bialaszewski, Dennis. (2012) Information Systems for the Future. *Kendall Hunt Publishing*
6. Economic census. Regions and Divisions. (2007) *U.S.Census Bureau*. Retrieved from http://www.census.gov/econ/census07/www/geography/regions_and_divisions.html

7. Harbour,S. (2013) Demand Media Why Is it Important for Organizations to Use Project Management? Retrieved from <http://smallbusiness.chron.com>
8. Kiesielnicki,J., Pencek,T., Sarmento,A., Bialaszewski,M., Aggarwal,A., Cartelli,A. (2005, May) The Importance of Project Management Skills in IS. Paper presented at Information Resources Management Association 16th Annual meeting, San Diego, CA.
9. KPMG. (2005) Global IT project management survey. Retrieved from <http://www.totalmetrics.com/function-points-downloads/IT-Project-Governance.pdf>
10. KPMG. (2013) Project Management Survey Report. Retrieved from <http://www.kpmg.com/NZ/en/IssuesAndInsights/ArticlesPublications/Documents/KPMG -Project-Management-Survey-2013.pdf>
11. Kwak,Y.H.(2003) Brief history of Project Management. In Carayannis, Kwak, and Anbari (eds) *The Story of Managing Projects*. (pp. 1-10). Westport, CT: Greenwood Publishing Group.
12. Sauer,C., Gmino,A., and Reich,B.H. (n.d.) Managing Projects for Success: The Impact of Size and Volatility on IT Project Performance. PMPerspectives. Retrieved from http://pmperspectives.org/upload_pdf/Planning_for_the_Unexpected.pdf