Combining the Simulation and Reflective Learning Models in Teaching a Graduate Course in Project Management

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Context

- MBA Program-Three course sequence in PM
  - Project Management Fundamentals
  - Advanced Project Management
  - Internship or independent study
- Advanced Project Management
  - Fundamentals course is a pre-requisite
  - Relatively small class (11)
  - My second iteration of the course

Course Learning Objectives

- Apply Microsoft Project in the management of project implementation and control activities.
- Assess and integrate project uncertainty and risk management in formulating project management decisions.
- Analyze and evaluate examples of literature in the field of project management.
- Synthesize knowledge of project management tools and methodologies in playing a project management simulation.

Simulation

- SimProject™
  - Jeffrey Pinto and Diane Parente
  - McGraw-Hill/Irwin, 2003
- Simulation linked to MS Project
- Mirrors PM challenges and experiences
- Facilitates active learning
  - But only if approached with care and diligence

Simulation

- Student teams (2-3 students) & instructor team
  - My first experience teaching with a simulation and my first experience with this simulation
- Project scenario: IT implementation Project
- Initial staffing decisions
- Recurring decisions
  - Resource decisions (allocation and changes)
  - Managerial actions
  - Training

Simulation

- Success criteria
  - Schedule
  - Budget
  - Functionality
  - Stakeholder satisfaction

Reflective Learning Component

- Learning involves thinking
- Reflective writing
  - Requires thinking and articulating those thoughts
  - Facilitates higher order learning
  - Provides evidence of learning
- Reflective Journals
  - Document your thinking relative to playing the simulation

Initial Project Staffing Decisions

- Bid for resources
  - Personnel profiles
    - Cost, education, efficiency, experience, reputation, skill, training, work ethic, flexibility, public relations, interpersonal skills
  - Team characteristics
    - Cohesion, efficiency, longevity of core team members, managerial style, team composition

Initial Project Staffing Decisions

- “One of our objectives was to pay higher prices for our resources up front in order to minimize any training needs that would arise.” (They were successful in getting the resources they wanted.)

Initial Project Staffing Decisions

- “Our initial strategy was to bid slightly below the standard rates to try to save some money for the project. If our strategy worked, we would have had a financial advantage. If our strategy failed, we would end up losing to resource picks to other teams. In our first attempt to hire resources we were outbid on all but one resource, that resource rejected our bid because it was too low. This will probably put us at a disadvantage for the rest of the simulation.”

Recurring Decisions

- “We plan to keep our positive momentum going this period. We gained one spot last week and hope to do the same this week. We are meticulously reviewing our project time-line to see who we have available for the upcoming tasks. For the task of installing client software, we decided to allocate or Senior System Analyst at 100% and our Jr. System analyst at 50%. For testing server software, we noticed our Software Engineer was effective and efficient at a previous software task, so we allocated him at 100%.”

Recurring Decisions

- “We have decided to invest in more training for our team members whenever we find appropriate training for them, based on less than 90% effectiveness ratings we have been receiving for some of them. Thus, looking at what lies ahead and the training rating for our team members, we had our Sr. Systems Analyst trained in benchmarking.”

Recurring Decisions

- “Our theory that one resource cannot be assigned to more then three tasks before getting rework and penalties does not really hold water. We think that we are seeing that a resource does not have to be over allocated in order to receive rework and penalties. It seems like the rework and penalties are more a function of effectiveness, which is linked to finding the correct resource for the task at hand.”

Final Thoughts

- “The project management simulation provided a tangible way to interpret and apply project management decision-making tools. The tasks of selecting resources, assigning resources to tasks, making managerial decisions, reviewing MS Project information, and adjusting decisions according to new period data, all provided project management practice. We were able to build on the concepts learned in the foundation course and consider personal work situations for applicability to the simulation.”

Conclusions

- Combination of simulation and reflective learning models appear to have facilitated students' learning
- Students need better MS Project skills
  - Revamped the Fundamentals course to include MS Project skill development (Gray & Larson)
- I need to provide more structure for the reflective journal and develop a grading rubric