Partnering of Academia and Industry, a Win-Win Situation

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Partnering between academia and industry is definitely a win-win situation because both parties benefit from the partnering in several ways. Universities can benefit from partnering with industry by having opportunity of finding out the trends, needs and interests of the industry which can provide direction for their curricula, educational vision and mission of their programs, as well as research topics and ideas for their faculty and students. In addition, networking can provide job opportunity for the graduates, and financial support for research as well as scholarship, which is very much needed specifically in the current situation of shrinking budgets. Partnership with universities can benefit the industry in several ways: the industry can gain access to expertise of the faculty and students for research and cutting edge technology; they can have access to graduates for hiring, cooperative education, and internship. They can have access to the university labs and facilities for research and development projects at a lower cost, thus avoiding enormous expenses of maintaining in-house research and development staff and facilities.

This paper presents two cases of such partnerships between University of Cincinnati (UC), College of Engineering and Applied Science (CEAS), School of Advanced Structures (SAS) with several firms involved in design, construction, and supply chain of construction materials and equipment.

Case 1 started when a professor from the Construction Science Department of former College of Applied Science (CAS) met with the president of a construction company to discuss topics of mutual interest. This construction company hires graduates of the construction management (CM) program and work-study (co-op) students. The main item that was brought up during this conversation was that the co-op students, as well as the graduates of the program, although well versed in the main disciplines of Construction Engineering and Management, are short in qualifications needed for Heavy/Civil projects. This was a true observation because the CM curriculum was geared mainly toward commercial buildings. The faculty mostly specialized and experienced in Commercial Construction, were not offering any courses designed specifically for Heavy/Civil projects.

Request for a new faculty position for offering exclusive courses for Heavy/Civil discipline was not supported by the university because of budget constraints; the CS department together with UC Foundation developed and submitted a proposal to the Construction Company requesting funding and helping in fund raising for a faculty position. In this proposal it was mentioned that if the industry (construction firms, subcontractors, materials suppliers, machinery and equipment

manufactures) agrees to fund the position, the university will start offering a highway estimating course during the period of time that fund raising process continues. Other Heavy/Civil courses such as highway surveying and use of global positioning system (GPS) for machine control will be offered after filling the faculty position. This proposal was approved and currently close to 80% of the required funding has been either pledged or paid. SAS has continued offering the highway estimating course taught by an adjunct faculty once a year. This course has received favorable reviews from Civil Engineering (CE) and CM students.

Case 2 started when an Architecture, Engineering and Interiors design firm approached SAS with an innovative idea about high-performance office design. The firm was willing to provide funding for a research in order to further develop the initiative. A team of three professors and one graduate student from UC and two specialists from the firm met and prepared the framework for the research. The university team submitted a proposal to the firm. Immediately after the proposal was approved by the firm and the university research office, the team started the research. The research progress was discussed in monthly meetings until the full report was finalized and approved. The university team authored and submitted a manuscript based on this research. The manuscript was published in an international journal[1]. A related follow up proposal will be submitted to the firm. This proposal is intended to offer a senior capstone studio course for Architectural Engineering Technology students.

These initiatives of collaboration between the university and industry have proven to be mutually beneficial. This kind of projects is definitely a win-win situation for academia and industry.

Bibliography:

1- Gargari et all, High Performance Facility Synchronization in Office Design, International Journal of Architecture, Engineering and Construction, Volume 1, No 4 (2012), Pages 221-230.