

Increasing Virtual Education Effectiveness by Quantifying Student Learning Trajectories and Virtual Internships

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Abstract: Traditional measures of institutional effectiveness include no. of graduates, dropout rate, job placement, student services, physical infrastructure, faculty strength and administrative structure etc.. In context of Virtual University (VU) programs, however, a fundamental component of institutional effectiveness is student learning and student opinions (e.g., satisfaction). We feel that a qualitative and quantitative assessment of student learning will help improve institutional effectiveness. Documenting and measuring learning will enable us measure student's success in achieving their educational goals.

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1. Introduction

Assessment metrics and the corresponding procedures for a VU are however not easy to design. In a VU environment that totally lacks face to face interaction with the teacher; such procedures should not make any evaluation only on study results at the end of a course or program but should also be based on student and teacher feedback throughout the learning/ study activities. Also student guidance and support throughout the learning process in a virtual environment is challenging. To overcome this challenge it is important that the teaching objectives, learning activities and assessment procedures be well aligned. This will not only help VU teachers to evaluate students' progress in achieving the defined objectives but also in guiding students on how to achieve these objectives. The proposed project, through the methods of scientific literature and document analysis, questionnaires, online data collection surveys for teachers and students, data analysis and descriptive inferential of already existing data, will try to fill the information gap to effectively implement any needed assessment plan planned by the VU and also in the appropriate selection of pedagogy, technology, and content as discussed above. The proposed project will also help identify and formulate best practices associated with the preparation of virtual school teachers and recommendations for improving VU policy for its virtual degree programs. Such recommendations and suggested best practices, instead of being technology-centered (how technology can be optimally used), would be learner-centered i.e., what should be done to help improve students' learning with technology. Keeping in view the cultural, lingual and social diversity of Pakistan and differences in learning

modalities of students, our research will be sensitive to such differences.

We sincerely hope that the research project will help VU improve its effectiveness and realize its objectives through recommendations to i) improve and standardize the curricula (iii) design of learning materials well suited to different learning environments, (iv) the application of different learning strategies and (v) the development of new assessment approaches, models and tools.

Specific objectives of the project are:

- i) Determine how the delivery medium and instructional methods influence learning. (modality effect)
- ii) Understanding students' learning styles and preferences to design and manage different web-based environments or other learning materials, class / content delivery methods, instructional strategies and choosing ODL technologies in various subject areas.
- iii) Study and analyze how students' learning styles affect the level of engagement in the online classes and suggest improvements.
- iv) Provides information to teachers that can be used to help shape the teaching.
- v) Assess teacher preparation and competences necessary for VU environment.
- vi) Study and analyze how teaching style effect the students' learning trajectories.
- vii) Deliver high quality information to students about their learning.
- viii) Determine factors that result in low student motivation leading to high ODL dropout rates
- ix) Help determine if VU provides equal access to students

- x) Monitor behavioral issues to identify student's personal crisis.
- xi) Improve students' usage of supplementary learning material such as libraries
- xii) Improve laboratory practice in the virtual learning environment
- xiii) Help increase /improve opportunities for a greater cultural understanding among ODL students

Virtual Internship Framework for Online Distance Learning (ODL) students

In context of a competitive job market in Pakistan, gaining practical work experience in a professional environment is vital for students. This is especially true for students enrolled in computer science and business degree programs. In traditionally academic setting, opportunities for such work experience are provided by physically placing the student in a professional setting. Such an arrangement is costly in terms of finances and time and therefore only a relatively small number of interns afford such opportunity. Advances in ICT have made it possible to provide students with opportunities for both national and international internships in a professional and industrial setting through the usage of ICT technologies and tools (e.g. videoconferencing, online forums, blogs, and email). Such internships are termed virtual internships and are defined as "internships involving the use of an ICT supported environment, where students interact with each other and companies, independent of time and space, and across traditional geographical boundaries, in order to carry out a specific and meaningful work-based activity that sometimes fits within the student's compulsory educational curriculum". Virtual internships are well suited for non-traditional (VU) students as such students are already familiar with use of ICT technologies in an academic setting. However, owing to lack of exposure to face to face communication and group activities, VU (Online Distance Learning (ODL)) students are often resistant / reluctant to such online collaborative group activities. This behavior is also a result of lack of such opportunities and lack of a well defined framework which must inculcate in students social constructivism by integrating such spirit and practices in curriculum. In the proposed project, we explore and investigate the possibilities of virtual internships / virtual placements of non-traditional (VU) students using ICT technologies. The project will seek to define such framework that facilitates organization and management of virtual internships. Also included will be necessary support services for students, before, during and after a work placement. Such a framework will not only provide students with

industrial exposure during program of study but will also help in possible physical / virtual placement.

Specific objectives of the project are:

- i) Identify existing Virtual Internship opportunities in industry (both national and international) that match both students and industry needs.
- ii) Work towards fostering acceptance of Virtual Internships within industry.
- iii) To identify and devise group based activities that may be integrated with VU educational curriculum.
- iv) Prepare and educate VU students in usage of tools such as videoconferencing, and collaborative workspaces that are needed for online group activities.
- v) Devise feedback mechanisms, Virtual follow-up and coaching systems to enhance knowledge exchange between VU, industry and students on tutoring issues, internship tasks, and student performance / progress.
- vi) Propose and implement activities to assist in physical placement of VU student in relevant industry.
- vii) Propose and implement activities to assist in virtual placement of VU student in relevant industry.
- viii) To help students form social networks and "Virtual Alumni "
- ix) Propose and implement a framework for implementing internships.

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