Chapter 14
Research Institutions:
Research-Based Teaching through Technology

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EXECUTIVE SUMMARY

Students that have been educated from online institutions do not readily receive the hands-on experience needed to make an easy transition into research-based institutions, research-intensive laboratories, or into the workforce. Online instruction does not cultivate the knowledge that comes from hands-on experience and experimentation. This type of experience is better facilitated via in-person interaction. In online institutions students only receive interaction via email, online discussion boards, or through phone calls. This does not allow for instructors to sufficiently improve upon the student's skills, assist in the development of their knowledge, or evaluate students' hands-on abilities within the science field. Within this case study, the author outlines some of the basic items that students should have been exposed to within their programs of study and state some of the issues that students in online institutions face when they are educated in an online setting and then transition to research-intensive settings. The author also outlines ways to assist students with these transitions and the types of facilities needed to assist students.

ORGANIZATION BACKGROUND

The mission of this case study is to address the issues and concerns of student hands-on experience when they transition from Online Institutions to practical settings, and to offer solutions to real-life dilemmas that exist within the science field. Our intent is to outline the issues that students face when they receive an online education from the perspective of four separate science fields, and express the needs of the students when they transition into research-intensive environments, the work force, or into institutions that are research-based. The goals of this case study are to:

1. Outline issues and deficiencies that students who are trained and/or educated online may face when transitioning to research-based institutions.
2. Evaluate and outline the experience and exposure of students to technology in Online Institutions that is necessary when transitioning to research-based institutions.
3. Suggest and state technology experience needed to assist students when transitioning to research-based institutions, research-intensive institutions, and into the workforce from Online Institutions.
4. Outline and detail the research experience of the student when transitioning into their related research-based institution.
5. Suggest methods and programs that exist or the need for implementation of programs to assist in student development to allow for easy transition to research-based or research intensive institutions.

Popularity of Online Institutions

The popularity of Online Institutions on the Undergraduate, Graduate, and Professional level has grown. With the decrease in the number of students that are enrolled in Land-Based Institutions which has a well-established traditional method of instruction, one can see a proportionate increase in the numbers of online programs because of their different approach to teaching and instruction, flexibility, and programs of study.

Online Institutions have become available to students all over the world, and on many levels of the educational system because they offer teaching methods and options that are not available to students within Land-Based Institutions. With each new Online Institution more and more academic programs offer more flexibility within their programs; scheduling of core and elective courses; a reduction in the time it takes to acquire a degree in the student's intended field; different modes of instruction for the courses; easier access to the course instructors; and the anonymity that comes with being taught from a distance. Students find Online Institutions